

Prepared by:



1718 Peachtree Street NW Suite 461 Atlanta, GA 30309

July 2007



TABLE OF CONTENTS

1.0 In	troduction	1-1
1.1	Community Profile	1-1
1.2	Purpose of Report	1-1
1.3	Report Organization	1-1
1.4	Travel Demand Modeling	1-3
1.5	Data Sources	1-5
2.0 P	anning Context	2-1
2.1	Public Input	2-1
2.2	Goals and Performance Measures	2-9
3.0 R	oadway Characteristics	3-1
3.1 3.1 3.1		3-1
3.2	Traffic Volumes	3-4
3.3	System Performance	3-9
3.4	Accident Information	3-11
3.5	Connectivity	3-13
4.0 F	uture Roadway Characteristics	4-1
4.1	Future Roadway Improvements	4-1
4.2 4.2 4.2 4.2	2.2 2030 CHATS (Summerville CTP) Build Network	4-5 4-7
4.3 4.3 4.3 4.3	,	4-11 4-13
5.0 S	chool Related Transportation Issues	5-1
6.0 B	icycle and Pedestrian Facilities	6-1
6.1	Bicycle Facilities	
6.1 6.1	5	
	.3 State and Local Guidelines	



0. 184		
6.1. 6.1.	,	
6.2	Pedestrian Facilities	6-4
6.2. 6.2.	3	
_	ansit Services	
7.1	Existing Conditions	
7.2	Future Needs and Recommendations	
	uck Traffic Analysis	
8.1	Existing Conditions	
8.2	Projected Conditions	8-4
8.3	Future Needs and Corridor Recommendations	8-7
9.0 Pa	rking Analysis	9-1
9.1	Existing Conditions	9-1
9.2	Parking Recommendations	9-1
10.0	Traffic Calming Needs	10-1
10.1	Carolina Avenue	10-1
10.2	Central Avenue	10-2
10.3	Pine Grove Street	10-2
11.0	Summary of Recommended Projects	11-1
	Roadway Improvements	11-1
11.2	Recommended Bicycle Improvements	11-9
11.3	Recommended Pedestrian Improvements	11-9
12.0	Funding Analysis	12-1
12.1	Guide Share	12-1
12.2	Enhancement Funds	12-1
12.3	C-Funds	12-2
12.4	State Infrastructure Bank (SIB)	12-2
12.5	Other SCDOT Funds	12-3
12.6	Local Option Sales Tax Program	12-3
12.7	Local Resources	12-3



12.8	Summary of Potential Funding Sources	12-3
13.0	Project Cost Estimates and Potential Funding Sources	13-1
13.1	Roadway Improvements	13-1
13.2	Bicycle and Pedestrian Improvements	13-9
14.0	Recommended Program of Improvements	14-1
14.1	Roadway Improvements	14-1
14.2	Bicycle and Pedestrian Improvements	14-3
14.3	Traffic Calming	14-5
15.0	Major Findings and Next Steps	15-1
15.1	Major Findings	15-1
15.2	Next Steps	15-2
	LIST OF TABLES	
	1.1 – Data Sources	
	3.1 – Roadway Functional Classification	
	3.2 – SCDOT Traffic Counts – 2001-2005	
	3.4 – High Accident Locations – 2004-2006	
	4.1 – Planned and Programmed Roadway Improvements	
	4.2 – Roadways with Highest Projected Volumes – 2030 E+C Network	
	4.3 – Roadways with Highest Projected 2030 Volumes – Build Network	
	4.4 – Projected 2030 Volumes – Network Comparison	
Table	8.1 – Recommended Truck and Truck Restricted Corridors	8-7
Table	11.1 – Recommended New Roadways and Roadway Capacity Improvemen	ts11-3
Table	11.2 – Recommended Roadway Intersection and Operational Improvement	s11-5
Table	11.3 – Recommended Bicycle Improvements	11-11
Table	11.4 - Major Recommended Pedestrian Improvements	11-13
Table	12.1 – Enhancement Grants for the Town of Summerville – 2003-2006	12-2
Table	12.2 – Summary of Potential Funding Sources through 2030	12-4
Table	13.1 - Recommended Roadway Improvements Unit Costs	13-1
_	13.2 – Estimated Project Costs and Potential Funding Sources for Roadwa	
Table	13.3 – Bicycle and Pedestrian Improvements Unit Costs	13-9



Table 13.4 – Estimated Project Costs and Potential Funding Sources for Bicycle Improvements13-10
Table 13.5 – Estimated Project Costs and Potential Funding Sources for Pedestrian Improvements
Table 14.1 – Short-Term Roadway Improvements – 2007-201214-1
Table 14.2 – Mid-Term Roadway Improvements – 2013-202014-2
Table 14.3 – Long-Term Roadway Improvements – 2021-203014-3
Table 14.4 – Estimated Enhancement Funds - 200714-4
LIST OF FIGURES
Figure 1.1 – Summerville Base Map 1-2
Figure 1.2 – Study Area 1-4
Figure 3.1 – Roadway Functional Classification 3-3
Figure 3.2 – Roadway Number of Lanes 3-5
Figure 3.3 – 2005 Traffic Counts 3-6
Figure 3.4 – Existing Roadway LOS3-10
Figure 3.5 – High Accident Locations3-12
Figure 4.1 – Planned and Programmed Roadway Improvements 4-1
Figure 4.2 – 2030 E+C Network Projected Roadway Volumes 4-6
Figure 4.3 – 2030 Build Network Projected Roadway Volumes 4-8
Figure 4.4 – Future Roadway LOS - 2030 E+C Network4-12
Figure 4.5 – Future Roadway LOS - 2030 Build Network4-14
Figure 5.1 – Summerville School Areas 5-2
Figure 6.1 – Existing and Potential Future Bicycle Facilities 6-2
Figure 6.2 – Bicycle Levels of Service 6-5
Figure 8.1 – Existing Daily Truck Volumes (2003) 8-2
Figure 8.2 – Existing Truck Traffic Percentages (2003)
Figure 8.3 – Projected Daily Truck Volumes (2030) 8-5
Figure 8.4 – Projected Truck Traffic Percentages (2030) 8-6
Figure 8.5 – Recommended Truck Corridors 8-9
Figure 11.1 – Recommended Roadway Improvements11-2
Figure 11.2 – Recommended Bicycle Network11-10
Figure 11.3 – Recommended Pedestrian Network11-12



1.0 Introduction

1.1 Community Profile

The Town of Summerville is located in Dorchester County on the suburban fringe of the Charleston metropolitan area. With a 2000 US Census population of 27,752, the Town has experienced a significant amount of growth over the past twenty-five years. Most of this growth occurred between 1980 and 1990. During that decade, the population of the Town increased from 6,371 to 22,537. Since 1990, the Town's growth has steadily continued. With this growth, travel demand on the Town's transportation network has also increased substantially. In recognition of these trends, the Town of Summerville seeks to ensure that its transportation network can adequately serve existing and projected travel demand. A base map of the Town of Summerville is shown in **Figure 1.1**.

1.2 Purpose of Report

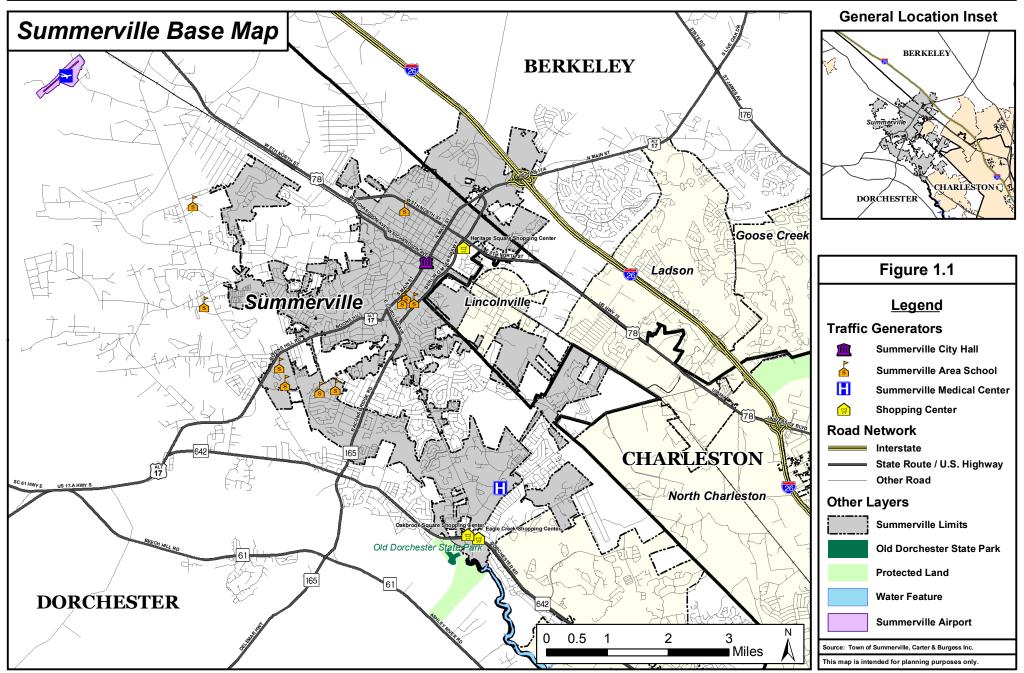
The overall objective of the Comprehensive Transportation Plan (CTP) is to identify an improvement strategy to enhance local traffic flow and overall mobility within the Town of Summerville and surrounding areas by evaluating the Town's transportation system, functional classification, level of traffic congestion, existing transportation alternatives, related land use patterns and opportunities for multimodal travel. The intended result of the CTP is to guide the development of capital improvements including a listing of short-term and long-term transportation projects that meet the current and future needs of the Town of Summerville.

1.3 Report Organization

The organization of this report is as follows:

- Section 2 describes the public input received throughout the study and the Goals and Performance Measures used to evaluate potential projects within the Town to describe the overall planning context from which they were developed:
- Section 3 provides an overall profile of the Town's roadway network, including its overall function and operational characteristics, and existing conditions such as roadway volumes and levels of service;
- Section 4 provides an overview the future characteristics of the Town's roadway network, including future roadway projects, projected travel demand and levels of service;
- Section 5 provides an overview of school related transportation issues;
- Sections 6 and 7 provide an overview of alternative mode travel within the Town;
- Sections 8 through 10 provide analysis on specialized transportation issues within the Town; and
- Sections 11 through 15 provide an analysis of recommended projects within the Town, their costs and potential funding available to complete these projects; and
- Section 15 describes the major findings and next steps to be undertaken by the Town to implement the recommendations herein.







1.4 Travel Demand Modeling

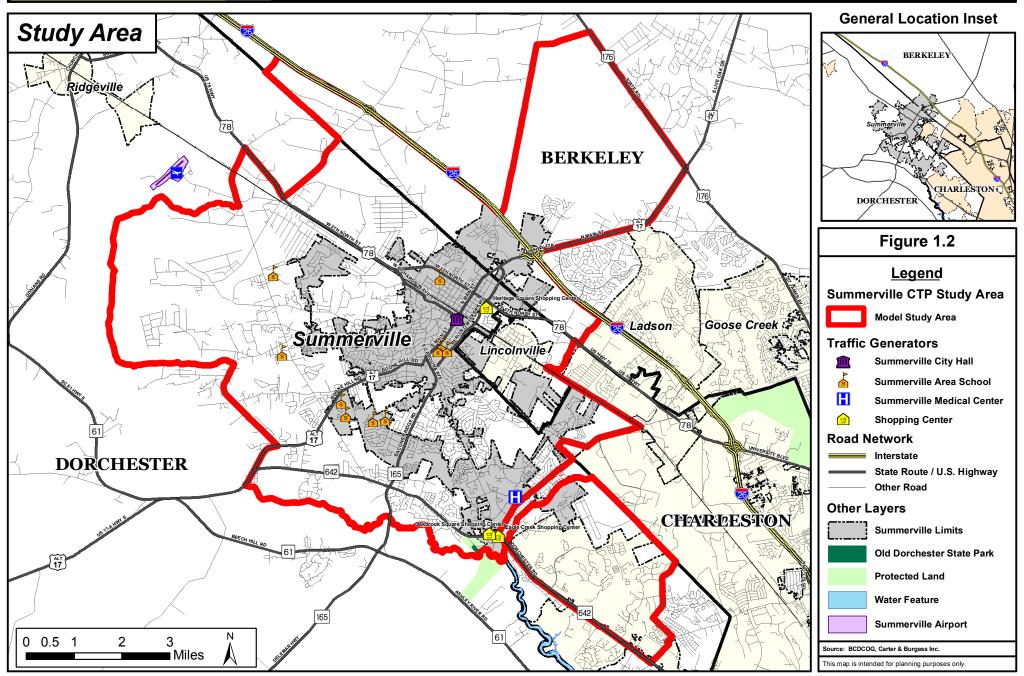
Among its responsibilities, the Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) is the Federally-designated agency responsible for the transportation planning activities within the Charleston Area Transportation Study (CHATS) area. The CHATS area is comprised of the urbanized portions of the Charleston region as identified in the US Census, which includes Town of Summerville. In their transportation planning role, BCDCOG is responsible for developing a regional travel demand model in order to examine existing roadway conditions and project future conditions. Within the CHATS model, the Charleston region is divided into traffic analysis zones based primarily on data from the US Census. The model derives travel demand to specific areas of the Charleston region based on the population and employment totals within each traffic analysis zone (TAZ). Based on the regional travel demand by TAZ, traffic volumes are assigned to specific roadways based on their location, capacity and other operational characteristics. There are three primary versions of the CHATS travel demand model, which are as follows:

- 2003 CHATS Base Year Model This version of the CHATS model predicts current travel demand on the existing roadway network given existing population and employment totals.
- 2030 CHATS Existing Plus Committed (E+C) Model This version of the CHATS model projects future travel demand given population and employment projections (which are formulated by the BCDCOG based on development trends) on the existing roadway network. It should be noted that a typical E+C model assumes a roadway network with capacities that would result from the completion of short-term roadway projects that are currently programmed and/or in some phase of development (i.e., environmental clearance, engineering, or construction).
- 2030 CHATS Build Model This version of the CHATS model projects travel demand that would occur on the Town's roadway network given the projected 2030 population and employment totals and the completion of all of the planned improvements for the Town.

In order to shift the modeling focus to a more localized level, the population and employment projections within 44 traffic analysis zones within the 2030 future year travel demand model, which included the areas within and around the Town of Summerville, were modified to be more reflective of the land uses planned within the area. A map of these traffic analysis zones, which comprises the Study Area for the Plan, is provided in **Figure 1.2**. Through this process, two model runs were developed as part of this analysis:

- 2030 CHATS (Summerville CTP) Existing Plus Committed (E+C) Network This version of the CHATS model projects travel demand that would occur on the existing roadway network given the revised 2030 population and employment projections within the Plan Study Area.
- 2030 CHATS (Summerville CTP) Build Network This version of the CHATS model projects travel demand that would occur on the Town's roadway network given the revised 2030 population and employment totals and the completion of all of the planned improvements for the Study Area and Charleston region.







1.5 Data Sources

The following sources were utilized in compiling the data utilized for this report.

Table 1.1 – Data Sources

Data	Data Source
Roadway Functional Classifications	Berkeley-Charleston-Dorchester Council of Governments
Roadway Number of Lanes	Berkeley-Charleston-Dorchester Council of Governments
Traffic Volumes (AADT)	South Carolina Department of Transportation
Accident Data	South Carolina Department of Transportation
Future Roadway Improvements	 Berkeley-Charleston-Dorchester Council of Governments South Carolina Department of Transportation Dorchester County Government
Existing and Potential Bicycle Facilities	Charleston Area Transportation Study
Bicycle Levels of Service	Berkeley-Charleston-Dorchester Council of Governments
Sidewalk Inventory	 Berkeley-Charleston-Dorchester Council of Governments Dorchester County Government
Transit Initiatives	 Charleston Area Regional Transit Authority Berkeley-Charleston-Dorchester Regional Transportation Management Authority
Future Land Uses*	Berkeley-Charleston-Dorchester Council of GovernmentsTown of Summerville
Available Funding Sources	 South Carolina Department of Transportation Berkeley-Charleston-Dorchester Council of Governments Dorchester County One-Cent Sales Tax Program Town of Summerville

^{*} For the development of the 2030 travel demand models to assess future conditions for the Plan.

In addition to the data listed above, a detailed field survey in and around the Town was completed to verify the data above and inventory roadway characteristics that will be utilized during the development of the Plan. The information collected included the following:

- Posted speed limits
- Types of directional dividers (i.e., medians, turn lanes, etc.)
- Lane widths
- Pavement conditions
- Density and type (i.e., commercial, residential, etc.) of development surrounding the roadway

The results of the field survey were transmitted to the Town of Summerville in April 2006.



2.0 Planning Context

2.1 Public Input

In total three public meetings were held during the development of the CTP on the following dates:

- June 12, 2006
- December 14, 2006
- March 6, 2007

Below is a list of comments received by the public and the responses given during the meeting dates listed above.

June 12, 2006 - The purpose of this meeting was to introduce the scope of the study and the planning context in which it will be completed. A total of nine members from the public attended the meeting.

- A representative from the Town Awareness Committee (TAC) stated that they would fill
 in the comment forms and respond to questions. They would like to have the
 consultants discuss with them their views at that time.
 - Rod Wilburn asked the TAC to send their comments in and that a meeting would be scheduled.
- Comment was made regarding the congestion on the US 17 Alt / Exit 199 of I-26. Will
 the study look at these difficult problems and address possible solutions? In response
 - Rod Wilburn stated that the study will use the CHATS travel demand model and would be able to identify congested areas and test possible solutions.
 - It is important to keep in mind that the Town of Summerville is part of a growing region and projects are influenced by regional developments. Improving traffic mobility will have to consider the regional land use and development activities surrounding the Town.
- There are rumors about expansion of the Port. Some have said that in lieu of expanding the Port, Jasper may be developed. This would lead to the need for rail connectivity and to additional truck traffic. Will the study consider the Ports?
 - The Ports is not part of the study scope. The study is focused on the Summerville Area and would look at transportation within the area.
- The question was raised about Glen McConnell Expressway extension. Could the proposed extension be looked at in the model to see if it would be more effective if it was located further to the west? This re-location could be an alternative to widening SC-165.
 - The study can test a new alignment in the model and analyze the impacts to the transportation system.
 - o This road has been discussed for a long time and continues to be a priority.



- The Town of Summerville's west end includes historic neighborhoods. The traffic and noise has been a growing problem, degrading the quality of the historic resource and impacting residents. Something needs to be done to reduce the truck traffic, the auto traffic and the speed of travel. This is a danger to bicycle and pedestrian traffic.
 - The study will look at truck routing to see what can be done to improve the transit of trucks and minimize the impacts on neighborhoods. These improvements can include signage, improved turning movements, and other traffic operations recommendations to accomplish that goal.
- Will the study consider bicycle and pedestrian facilities; will such facilities be recommended as part of road widening projects?
 - The study will look at existing plans for bicycle and pedestrian facilities and look at where those facilities can be implemented. Where road widening and bicycle facilities plans coincide, usually the two are coordinated for implementation.
 - DWA will be coordinating with SCDOT concerning the status of programmed projects. Where a project has advanced to concept design, we will check if bicycle and/or pedestrian facilities are included.
 - SCDOT policy, like CHATS policies, favor including bicycle and pedestrian facilities on widening projects.
 - It is important for bicycle and pedestrian networks that the study review connectivity and identify gaps that interrupt connections.
- What is the status of the Berlin Meyer extension? The study will consult with SCDOT and with the CHATS MPO about the project. Some residents fear that the implementation of this project will impact residential quality of life and increase noise and degrade the quality of life.
- One commenter made the following statements:
 - Town of Summerville should be a village with those types of amenities.
 Congestion on streets makes that concept difficult to achieve. There should be a bypass around the whole town to protect the "village" context.
 - The Arch at Central Avenue floods (this Arch is scheduled for replacement).
 - Growth has resulted in truck traffic through the town in route to commercial areas. That needs to be addressed to minimize the truck traffic through town.
 - Getting on the I-26 headed east to Charleston gets more difficult with time. The access needs to be widened to 2 lanes.
 - Making left hand turns on Richardson and Cedar is difficult and need to be improved.
 - Pedestrians are not respected by cars. Cars will not stop for them.
- Comment was raised regarding cost v. affordability of transportation programs. How will
 we address the financial requirements for recommended improvements? The County
 recently passed a referendum to fund regional projects; however, it is already apparent
 that the amount of money collected will not be sufficient to cover the cost of projects they
 had hoped to implement.



- Projects are getting more expensive. Delays cause projects to absorb the cost of inflation over time and most recently the cost of oil has made the price of asphalt and related construction materials to increase.
- It will be important for the study to document the cost of "no build" v. "build". This should quantify the cost of deferring implementation of needed projects.
- One of the impact quantifications should address the implementation of the Berlin Meyer project. This project is expected to provide relief to traffic congestion. If Berlin Meyers is not implemented, are there any relievers that could alternates? What would be the consequences on to other parts of the system?
- The comment was made that the Town of Summerville has been "short changed" in the CHATS process. Other areas have gotten more projects in the MPO program than Summerville.
- Another participant offered up the view that the City and the County needs to coordinate
 closely the zoning and land use with transportation improvements. This will protect the
 public investment in the transportation facility and secure its operations are not
 compromised because it has to serve incompatible uses.

December 14, 2006 – The purpose of this meeting was to present the results of the needs assessment report. Approximately 60 citizens attended the meeting. For ease of review, the questions and responses have been provided by the subject matter to which they pertain. This input has been organized into the following subjects:

- Future Growth/Land Use Coordination:
- Funding/Project Prioritization;
- Carolina Avenue;
- Berlin Myers Parkway;
- Truck Traffic; and
- Other

Future Growth / Land Use Coordination

- How was the Town's population increase estimated? What is the annual rate of growth?
 - The projected annual rate of growth is approximately three percent which is fairly aggressive. This information comes from the regional comprehensive planning information developed by the Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) that uses a number of approaches to estimating future population and employment. We worked closely with the Town staff to distribute the forecast population and employment into the travel demand model travel analysis zones so that expected development patterns of growth were captured.
- Will the study use a formula to balance the anticipated growth with land use and transportation investments? There needs to be a balance between where development is anticipated and the Plan recommendations.



- No "formula: is used. However, the Town is considering all potential recommendations in that context and will monitor the performance of the plan by reviewing transportation system performance over future years.
- Once you have identified road improvements that are necessary, funding and priorities, will the recommendations be coordinated with development?
 - The methodology for developing recommendations is based on coordination with land use and development. However, there is a lot of through traffic that does not originate in the Town, but does pass through the Town on its way to its final destination. Recommendations are going to have to consider improvements that are programmed outside the Town as well as those that we will identify in the Town. The Plan needs to be monitored and proposed land use developments reviewed for their impact on transportation network operations.

Funding/Project Prioritization

- How closely will the study consider the funding of projects? The one-cent (County sales tax program) projects are in trouble because the cost of projects has outstripped the earlier estimated costs. There needs to be close attention to the funding to make sure that there is a realistic estimate of what can be done with the resources available.
 - That is part of our assignment.
- Will your study prioritize projects to reflect the "best" expenditure of funds?
 - Prioritization of projects is something that we will do in consultation with City Council.
- You should use the travel time as your primary performance measure. This is easier to understand than LOS or other measures. Also, can you keep the total costs of projects current on the web? We know that the cost of building projects is growing beyond the availability of funding resources.
 - Travel time will be used as much as possible in explaining the benefit of projects.
 The Plan report will include an analysis of available funding sources and the identification funding gaps.

Carolina Avenue

- Intersection improvements at five-points (Carolina Avenue and Main Street) are needed to alleviate accidents. That intersection should be improved to make it more passable. There is a "pit" at the intersection of five-points that is a hazard. Trucks using the facility are making it worse. Another project the study should consider is making five-points a four-point intersection. That would make more sense for "safe" traffic operations.
 - As the intersection with the greatest number of crashes over the past three years, this intersection will be one of those studied in greater detail as part of this



effort. The potential conversion of this intersection to a four-point intersection, which was analyzed as part of the 1998 CTP, will also be revisited.

- There is a need for sidewalks and traffic calming on West Carolina Avenue.
 - The project team has reviewed the recommendations of a study of traffic calming measures for West Carolina Avenue and will be taking those findings into consideration.
- The Town of Summerville Council should be aware that West Carolina Avenue is important to the schools. Do not four-lane West Carolina Avenue at Central. Increased traffic will affect the safety of children at schools. Please coordinate the study recommendations with the School board and with the Hospital.
 - The consultants will contact the School Board and the Hospital and coordinate with them on the draft transportation study recommendations before they are finalized. Any comments received from the School Board and the Hospital will be documented and addressed as appropriate.

Berlin Myers Parkway

- How closely will the study look at the East Carolina Avenue widening (as part of the Berlin Myers Parkway Phase III project)? How much attention will the study give to operations of local streets?
 - The East Carolina Avenue widening is associated with the Berlin Myers project design. The purpose of this study is to examine the overall network of the Town, but specific design issues relating to the Berlin Myers project are the responsibility of the South Carolina Department of Transportation. The study will look at local streets and consider operations improvements.
- Berlin Myers is not working optimally. There are too many stop lights and strip malls that line the facility making traffic a continuing problem. CHATS is not assessing the needs on Berlin Myers well. Is Berlin Myers (Phase III) still needed? In addition, East Carolina widening to five-points (as part of the Berlin Myers Phase III design) will impact residents. East Carolina is a residential street but it is used as a pass-thru. What is the rationale for widening East Carolina Avenue?
 - There is a lot of interest in the Berlin Meyers (Phase III) project. There are other studies that are on-going and the consultant team will need to look at the status of activities. Once that is accomplished, we will be ready to respond in a manner deemed appropriate by the Town, which could include the development of a fact sheet specifically addressing findings resulting from the Plan in relation to the Berlin Myers project.

Truck Traffic

• One thing that slows traffic is trucks that use roads not intended to be used by trucks. Is there a study of this problem that identifies improvements?



- Truck transportation patterns will be addressed in the Plan. Managing truck traffic requires both policy and project initiatives. Truck transportation problems will be studied to identify what the Town should do to better channel truck traffic to facilities that can better handle those types of movements.
- West Carolina Avenue has a sign that specifies no thru trucking but trucks use it anyway. Truck routing is a problem. Town needs to manage truck routes better. There is congestion and traffic backs up from East Carolina to West Carolina from Main Street past the Town Hall, much of it caused by truck traffic.
 - As part of the study we will be looking at traffic operation needs, including truck travel implications.

Other

- How is this Plan making an improvement? The study says that speeds are expected to be reduced from now to 2030 that is not an improvement.
 - The analysis indicates what will occur as a result of anticipated growth. The area is expected to grow at a robust rate and that will have impacts on the transportation network operations, including travel time and speeds. The study will be looking at projects to mitigate the negative results of additional traffic.
- How does widening Central from 20 feet to 24 feet for a distance of eight miles help?
 - This is a safety project and the widening is expected to help reduce accidents along the roadway, especially 'run-off the road' accidents.
- Does Carter & Burgess, Inc. have the ability to test alternative growth scenarios that give estimates of impacts from different "what if" situations?
 - Yes, the updated model can test alternative scenarios.
- When will the maps shown on the presentation be on the web?
 - o The maps and other meeting results will be on the web after the first of the year.
- Will projects implemented as a part of the study recommendations require taking residential or commercial property?
 - One of the items we are sensitive to is community impacts for new projects. We will flag projects where there is rights of way needed and where there may be an impact on the community.

March 6, 2007 – The purpose of this meeting was to recap the analysis from the Needs Assessment, the results of the truck traffic, school access and downtown parking analyses, and the present the recommended projects for the Plan. Approximately 25 citizens attended the meeting.



- It would appear to me that the recommendations, by recommending widening to US 78 and the Berlin Myers Parkway extension, do not adequately address redirecting traffic from the center of the Town but rather attract more traffic into the Town. Also, was the SC 61 Expressway considered during the analysis?
 - The recommended improvements also called for many of the roadways on the Town's periphery, such as Old Orangeburg Road and Dorchester Road. It is foreseen that the recommended improvements to Old Orangeburg Road and Jedburg Road to the northern I-26 exit (199) would serve as a bypass for traffic destined for areas to the south and west of the Town. The SC 61 Bypass was not recommended because the proposed alignment has shifted further west. However, we will test a model run with the construction of the SC 61 Expressway to examine how it impacts projected congested levels.
- It would appear that the recommendations do not take into adequately account the current and future development trends through the year 2030.
 - At the beginning of the process the Town gave us input on their planned development and future land use plan. Based on this input, the travel demand model for the CHATS region in and around the Town was modified to reflect these development patterns. However, it is important to remember that the travel demand model is for the entire Charleston region and, therefore, some of the anticipated growth in travel patterns within the Town may be understated if the population projections from CHATS are low.
- What is meant by short-term and long-term improvements? How will these improvements be prioritized?
 - Short-term improvements would include those that are within the Statewide Transportation Improvement Plan or funded by the Local Option Sales Tax, which would be implemented sometime between now and 2012. Long-term improvements are those that would be funded beyond that timeframe. The project team will be developing cost estimates and weighing them against available funding sources to develop a prioritized list of improvements.
- During the presentation you said that school areas were considered, but I did not hear any discussion of the Flowertown and Newington Elementary Schools. With the construction of the Berlin Myers Parkway, SCDOT projects 18,000 trips onto King Charles Court. Why was this not addressed?
 - The project team is unaware of any such projections. However, we will reinvestigate further improvements to Luden Road if these projections are indeed accurate.
- Did the transportation study consider a possible additional interchange along I-26 between Jedburg Road and US 17A? It would appear that the development in Berkeley County will be directed toward the two existing interchanges and some of this traffic will be entering Summerville?



- Since it is a regional model, the travel demand model used to project levels of congestion does take into account the planned growth within surrounding areas. The project team did not take into consideration an additional interchange, but do agree that it is not out of the realm of possibility between now and 2030 given the level of development that is taking place nearby in Berkeley County.
- Did you consider extending the Sawmill Branch facility down to Dorchester State Park?
 - Yes, it is on our list of recommended bicycle improvements.
- Why are there no connections being proposed to the Sawmill Branch from the neighborhood east of downtown? I feel connections are needed from this area, particularly from the nearby schools.
 - We did not recommend any at-grade connections from this area due primarily to the obstacle that the traffic volumes that are projected along Berlin Myers and its intersection with Gahagan Road would present. A connection to the facility from this area would need to come through Richardson Avenue, which is grade separated. This is a connection we will revisit during the development of our final recommendations.

Summary

Overall, the primary issues raised by the public were as follows:

- <u>Berlin Myers Extension</u> As reflected in the preceding text, there was both support and opposition of the planned extension of Berlin Myers Parkway. However, the analysis provided in the sections that follow supports the completion of this project.
- <u>Bicycle and Pedestrian Facilities</u> Throughout the Plan development process, there has been a repeat concern about the lack of bicycle and pedestrian facilities within the Town.
 Table 11.3 and **Table 11.4** contain lists of recommended bicycle and pedestrian projects for the Town as a result of public input, input from the Dorchester Two School District, and overall travel needs.
- <u>Truck Traffic</u> The management of truck traffic has been a major public concern throughout the plan development process. An analysis of both existing and projected truck traffic characteristics is provided in Section 8 of this Plan. As a result, the recommended truck corridors for the Town are provided in **Table 8.1**.



2.2 Goals and Performance Measures

In order to adequately address the needs of the Town's transportation network, a set of goals and performance measures were developed based upon the goals and strategies within the Town of Summerville Comprehensive Plan and input received from the public. The goals and performance measures focus on five primary areas:

- Mobility
- System Balance
- Safety
- Land Use
- System Preservation

FOCUS AREA	GOALS
Mobility	 Address travel demand efficiently, minimizing congestion and improving the flow of travel Coordinate transportation and land use plans to better balance transportation need and improve access
System Balance	 Integrate alternative travel modes, including transit, pedestrian and bicycle, to provide connectivity within and between modes and optimize use of existing infrastructure Utilize the functional classification of facilities to balance needs of local and pass-through travel
Safety	 Develop a safer travel environment for all transportation modes
Land Use	 Support economic development initiatives and encourage development that includes live, work, and play Support transportation improvements that are functionally and aesthetically consistent with the community / neighborhood environment and quality of life
System Preservation	 Preserve the transportation system for the future by implementing appropriate system maintenance and refurbishment



3.0 Roadway Characteristics

Roadway characteristics typically refer to the major attributes of roadways that determine how that facility functions within the context of the entire road network. These attributes include items such as: facility definitions or functional classifications, which describe the purposes for which the roadways are designated; major infrastructure elements, such as bridges, which can limit design alternatives; and traffic volumes, which serve as a good indication of how often the roads are actually being used. Other aspects such as accident data, connectivity analysis, and planned improvements further describe this relationship between existing utilization and future modifications to the system that will occur or will be needed in the future.

3.1 Roadway Network Profile

The roadway network profile is the starting point for an inventory and analysis of roadway characteristics. The profile includes functional classifications and number of lanes.

3.1.1 Functional Classifications

Functional classification is the system by which streets and highways are grouped into classes, according to the character of service that they are intended to provide.

SCDOT, with cooperation from responsible local officials, has the primary responsibility for developing and updating a statewide highway functional classification in rural and urban areas to determine functional usage of the existing roads and streets. The functional classifications of the roadways within the Town of Summerville are presented in **Table 3.1** and shown graphically in **Figure 3.1**.

A breakdown of roadway miles for each of these classifications within the Town is as follows:

Roadway Classification Type	Miles	Percentage
Interstate	3.3	1.4%
Principal Arterials	8.3	3.5%
Minor Arterials	15.7	6.5%
Collectors	16.6	6.9%
Local Roads	196.0	81.7%
Total	239.9	

Functional Classification Characteristics

Pursuant to the Federal Highway Administration, the following characteristics define the functional classification of the roadways within the Town of Summerville:

Interstate Highway (I-26)

• All routes designated on the Federal Interstate System typically provide travel for interstate and intercounty travel.



Table 3.1 – Roadway Functional Classification

Thoroughfare	Classification
I-26	Interstate Highway
US 78 (Fifth Street North)	Principal Arterial
Berlin Myers Parkway	Principal Arterial
SC 642 (Dorchester Road)	Principal Arterial
US 17A (Boone Hill Road W of Old Orangeburg Road)	Principal Arterial
US 17A (N. Main Street N of Berlin Myers Parkway)	Principal Arterial
US 17A (Boone Hill Road E of Old Orangeburg Road)	Minor Arterial
US 17A (Main Street S of Berlin Myers Parkway)	Minor Arterial
SC 165 (Bacons Bridge Road)	Minor Arterial
Old Trolley Road	Minor Arterial
East Carolina Avenue	Minor Arterial
Ladson Road	Minor Arterial
Old Orangeburg Road (US 17A to SC 642)	Minor Arterial
Miles Jamison Road (Beverly Road to Ladson Road)	Minor Arterial
Old Orangeburg Road (N of US 17A)	Collector
Tupperway Drive	Collector
West Carolina Avenue	Collector
Central Avenue	Collector
Butternut Road	Collector
Richardson Avenue	Collector
Gahagan Road	Collector
Miles Jamison Road (SC 165 to Beverly Road)	Collector
All Other Roads	Local Roads

Source: Charleston Area Transportation Study, 2006

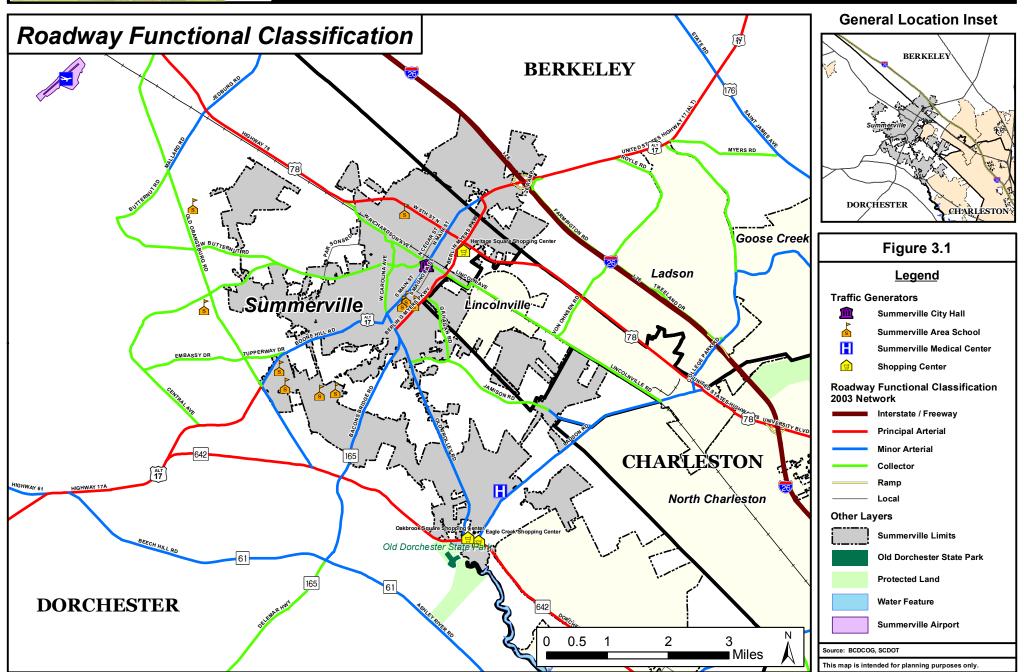
Principal Arterials (See Table 3.1 for List)

- Have trip length and travel density characteristics indicative of substantial statewide or interstate travel.
- Serve a large majority of the population within a specific area.
- Provide an integrated network with continual connections.

Minor Arterials (See Table 3.1 for List)

- Link cities and larger towns and form an integrated network providing interstate and intercounty service.
- Are spaced at such intervals so that all developed areas are within a reasonable distance of an arterial highway.
- Provide service to corridors with trip lengths and travel density greater than those
 predominantly served by rural collector or local systems. Minor arterials therefore
 constitute routes whose design should be expected to provide for relatively high overall
 travel speeds for through movements.







Collectors (See Table 3.1 for List)

- Provide links to nearby larger towns or cities, or with routes of higher classification; and
- Serve the more important regional and local travel corridors.
- Are spaced at intervals, consistent with population density, to collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road
- Provide service to the remaining smaller communities.

Local Roads

- Serve primarily to provide access to adjacent land; and
- Provide service to travel over relatively short distances as compared to collectors or other higher systems.

3.1.2 Number of Lanes

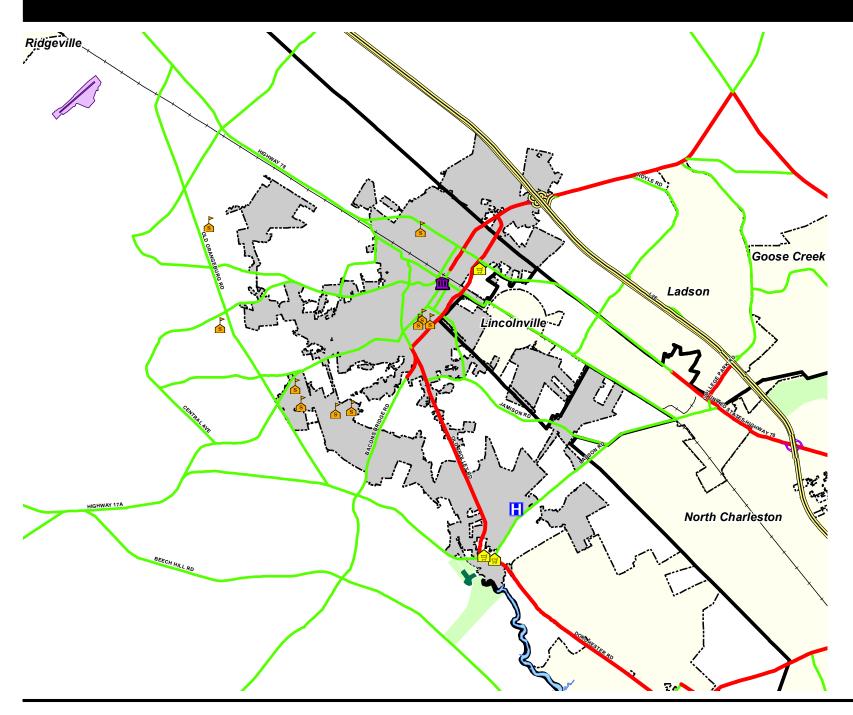
The number of lanes reflects the capacity of a given roadway and is, therefore, an important characteristic in determining potential operational deficiencies given the level of traffic being carried by a specific roadway. The number of lanes on the roadways within the Town of Summerville is shown in **Figure 3.2**. As shown on the figure, all of the roadways within Summerville are two-lane roadways with the exception of the following roadway segments, which are primarily four-lane roadways with a center turn lanes:

- Main Street (US 17A) from 6th Street North to Summerville Town Limits near I-26
- Berlin Myers Parkway from Carolina Avenue to Main Street (US 17A) in Berkeley County
- Old Trolley Road from Carolina Avenue to Dorchester Road (SC 642)
- Ladson Road from Dorchester Road (SC 642) to US 78
- Bacons Bridge Road (SC 165) from Old Trolley Road to Stallsville Road

3.2 Traffic Volumes

SCDOT has maintains several traffic count locations in and around the Town of Summerville. The traffic counts locations and daily traffic counts (AADTs) from the latest 2005 survey are shown in **Figure 3.3** and all counts from 2001 to 2005 are provided in **Table 3.2**. As shown, the most heavily traveled roadways in the Town of Summerville are as follows:

- Main Street (US 17A) from US 78 to I-26, with AADTs ranging from 34,400 to 41,200;
- Carolina Avenue between Old Trolley Road and Main Street (US 17A), with an AADT of 38,500;
- Dorchester Road (SC 642) from Bacons Bridge Road (SC 165) to Wescott Boulevard, with AADTs ranging from 23,000 to 37,200;
- Berlin Myers Parkway from Carolina Avenue to US 17A in Berkeley County, with AADTs ranging from 23,500 to 27,800;
- Old Trolley Road from Bacons Bridge Road (SC 165) to Dorchester Road (SC 642), with an AADT of 28,200; and
- Ladson Road from Dorchester Road (SC 642) to the Charleston County line, with an AADT of 22,900.





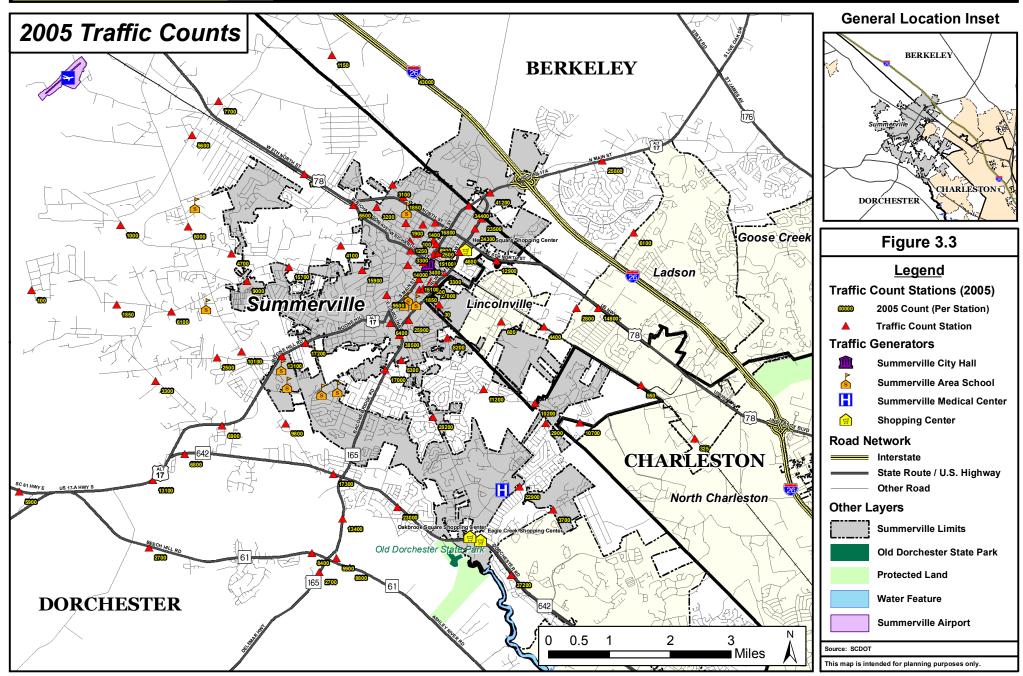




Table 3.2 - SCDOT Traffic Counts - 2001-2005

SCDOT	Route	Location	AADT Traffic Counts				
Station #	noute	Location		2002	2003	2004	2005
2181	I-26	Main Street (US 17A)	36400	38500	41500	41700	43000
106	Boone Hill Road (US 17A)	SC 61 to Dorchester Road (SC 642)	10800	11000	12600	12700	13100
108	Boone Hill Road (US 17A)	Dorchester Road (SC 642) to Old Orangeburg Road	5500	6200	6400	6600	6900
110	Boone Hill Road (US 17A)	Old Orangeburg Road to Tupperway Drive	10900	12200	11800	12500	13100
111	Boone Hill Road (US 17A)	Tupperway Drive to Carolina Avenue	15600	15800	16400	16500	17200
113	Main Street (US 17A)	Carolina Avenue to Luke Street	14600	13600	13500	13700	15100
115	Main Street (US 17A)	Luke Street to U.S. 78	18800	17600	17600	18600	19100
117	Main Street (US 17A)	U.S. 78 to Berkeley Co. Line	30900	30400	30600	30600	34400
100	Main Street (US 17A)	Berkeley Co. Line to I-26	37400	36200	37300	44500	41200
165	Dorchester Road (SC 642)	Boone Hill Road (US 17A) to Old Orangeburg Road	5800	6000	6600	6100	6800
167	Dorchester Road (SC 642)	Old Orangeburg Road to Bacons Bridge Road (SC 165)	14000	16600	18200	15900	17300
169	Dorchester Road (SC 642)	Bacons Bridge Road (SC 165) to Old Trolley Road	22700	21700	21800	21700	23000
171	Dorchester Road (SC 642)	Old Trolley Road to Wescott Boulevard	32000	32700	34100	34400	37200
157	Delemar Highway (SC 165)	Rantowles Creek to SC 61	2100	2200	2300	2100	2700
159	Delemar Highway (SC 165)	SC 61 to Dorchester Road (SC 642)	10500	12100	12600	11600	13400
161	Bacons Bridge Road (SC 165)	Dorchester Road (SC 642) to Old Trolley Road	17300	15800	17000	16700	17000
162	Berlin Myers Parkway (SC 165)	Carolina Avenue to 6th Street South	20900	19000	23100	24400	25900
168	Berlin Myers Parkway (SC 165)	6th Street South to Fifth Street North (US 78)	21300	21600	25400	26800	27800
170	Berlin Myers Parkway (SC 165)	Fifth Street North (US 78) to Berkeley Co. Line	18200	19100	21200	22800	24300
160	Berlin Myers Parkway (SC 165)	Berkeley Co. Line to US 17A	16800	18700	20900	21600	23500
137	US 78	Mallard Lane to Richardson Avenue	12900	11700	13000	14000	14800
139	Fifth Street North (US 78)	Richardson Avenue to Main Street (US 17A)	15800	16500	16200	16900	16800
140	Fifth Street North (US 78)	Main Street (US 17A) to Owens Drive	12900	11900	13200	13400	12900
142	US 78	Owens Drive to Charleston Co. Line	14000	13900	15700	16300	14800

Source: South Carolina Department of Transportation, 2006



Table 3.2 – SCDOT Traffic Counts – 2001-2005 (continued)

Route	Location		AADT Traffic Counts				
Houte	Location	2001	2002	2003	2004	2005	
Central Avenue	Embassy Drive to Boone Hill Road (US 17A)	2600	3100	3000	3200	3300	
Central Avenue	Old Orangeburg Road to Embassy Drive	4900	5700	6400	6300	6100	
Central Avenue	Butternut Road to Old Orangeburg Road	6700	7500	8400	9100	9000	
Central Avenue	Parsons Road to Butternut Road	11600	12600	14400	15300	15700	
Central Avenue	Carolina Avenue to Parsons Road	12200	12800	14300	15200	15900	
Central Avenue	Richardson Avenue to Carolina Avenue	11500	12200	13100	13600	14000	
Cedar Street	Fifth Street North (US 78) to Richardson Avenue	7700	8200	8700	9200	8900	
Carolina Avenue	Old Trolley Road to Main Street (US 17A)	29400	29300	34900	36400	38500	
Carolina Avenue	Main Street (US 17A) to Richardson Avenue	8100	7800	9300	9400	9500	
Old Orangeburg Road	Butternut Road to Central Avenue	5200	6600	7600	8000	8000	
Old Orangeburg Road	Central Avenue to Boone Hill Road (US 17A)	9300	10200	9400	9800	10100	
Old Orangeburg Road	Boone Hill Road (US 17A) to Dorchester Road (SC 642)	9700	10600	9300	10100	9800	
SC 61	SC 165 to Charleston Co.	6700	7500	7600	7100	8800	
SC 61	Boone Hill Road (US 17A) to SC 165	5500	6700	7200	6800	8400	
Ladson Road	Dorchester Road (SC 642) to Charleston Co. Line	21600	21500	23200	20700	22900	
Gahagan Road	Berlin Myers Parkway (SC 165) to Miles Jamison Road	6700	9600	7900	8600	8200	
Mallard Lane	Old Orangeburg Road to US 78	3800	4300	4900	5600	5600	
Mallard Lane	US 78 to Berkeley County Line	5400	5900	6200	7000	7700	
W. Butternut Road	Old Orangeburg Road to Central Avenue	3600	3300	4100	4500	4700	
Parsons Road	Richardson Avenue to Central Avenue	310	3500	3700	4000	4100	
Old Trolley Road	Bacons Bridge Road (SC 165) to Dorchester Road (SC 642)	21100	21700	25200	26200	28200	
Miles Jamison Road	Old Trolley Road to Ladson Road	9700	9200	9600	9900	11200	

Source: South Carolina Department of Transportation, 2006



Trends

The distribution of traffic volumes throughout the Town would indicate that the most prevalent travel pattern through the Town and points west to access I-26. This is indicated by the high traffic volumes on Main Street (US 17A), Berlin Myers Parkway, parallel relievers such as Ladson Road and Dorchester Road (SC 642), and on Old Trolley Road and Carolina Avenue, which provide connectivity between these roadways. These volumes would also indicate that much of the north-south through trips are being served by I-26, which has an AADT of 43,000 compared to the AADTs ranging from 12,900 to 16,800 along US 78.

3.3 System Performance

Level of service (LOS) is a letter designation used to describe traffic operating conditions, on a declining scale from A to F. LOS A represents free-flow traffic conditions and LOS F represents extreme delays with stopped traffic conditions. Service flow at LOS E is the value that corresponds to the maximum flow rate, or capacity, on the facility. For most design and planning purposes, service flow rates of LOS D or C are generally considered as acceptable levels of service, as they ensure a more acceptable quality of service to facility users.

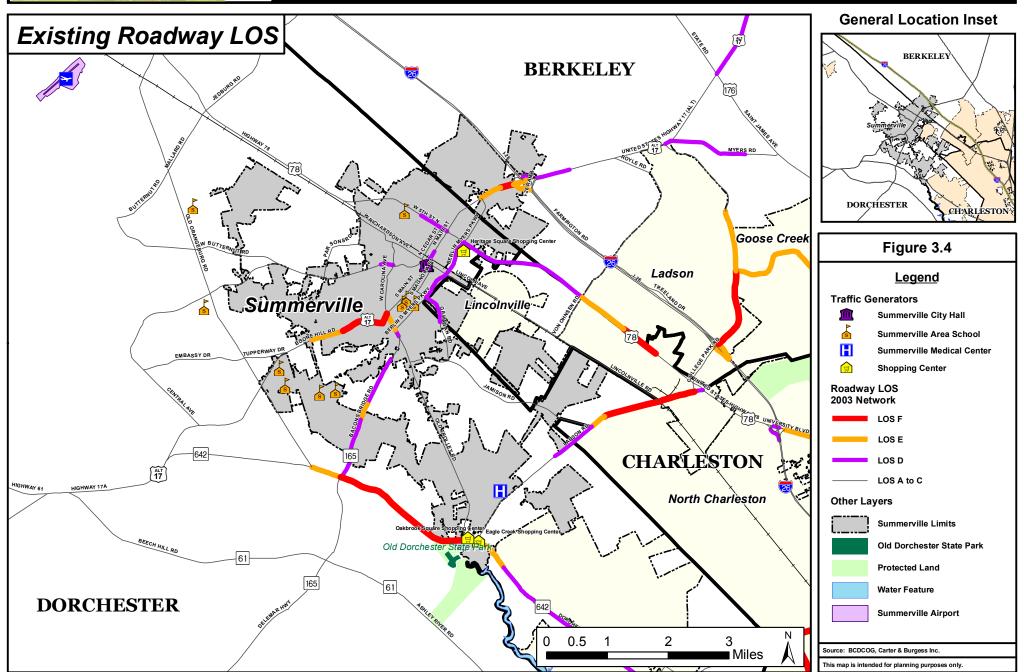
The concept of levels of service uses qualitative measures that characterize operational conditions within a traffic stream and perception of these conditions by motorists and passengers. The description of individual levels of service characterize these conditions in terms of factors such as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

Information from the 2003 Base Year Model (as discussed in greater detail in Section 1.4 herein) was utilized to determine the existing levels of service throughout the Town of Summerville. The existing LOS per the CHATS model is presented in **Figure 3.4**. As shown, the roadways with the poorest LOS, and therefore, the highest levels of congestion are:

- Dorchester Road (SC 642) from Old Orangeburg Road to Wescott Boulevard, with segments operating at LOS D or worse. The entire segment from Bacons Bridge Road (SC 165) to Old Trolley Road operates at LOS F.
- Main Street (US 17A) from US 78 to I-26, which operates mostly at LOS E.
- Boone Hill Road (US 17A) from Luden Road to Carolina Avenue, which has segments operating at LOS E and LOS F.
- Berlin Myers Parkway, which operates at LOS D.
- Bacon Bridge Road from Stallsville Road to Dorchester Road (SC 642), which operates primarily at LOS D.

With the exception of a few isolated segments, the remaining roadways throughout the Town operate at LOS C or better.







The overall breakdown of the existing LOS based on the CHATS Model for roadways within the model network and those within the Town limits is provided below:

	Study Area		Town N	etwork*
	Miles	%	Miles %	
LOS D	12.7	9.2	3.3	12.1
LOS E	4.6	3.3	1.3	4.7
LOS F	5.7	4.1	1.4	5.2

Source: CHATS Base Year Travel Demand Model

As shown above, the roadways on the model network within the Town of Summerville have a slightly higher percentage of roadways operating at LOS D or worse (22.0%), than those in the Summerville area model network (16.6%).

3.4 Accident Information

High accident locations represent intersections that are potentially in need of operational improvements to improve safety along the Town's network. Information regarding accident locations along roadways on the state roadway network was provided by SCDOT for the years 2004-2006. Due to data limitations, this information only included crashes that were investigated by the Summerville Police Department. Therefore, the data provided by SCDOT does not include any accidents investigated by other law enforcement agencies, such as the Dorchester Sheriff's Department and the South Carolina Department of Safety. While this information does not include all of the accidents in Summerville, it is useful in determining high accident locations, or 'hot spots' within the Town. These accident locations are shown graphically on **Figure 3.5** and presented in **Table 3.4**.

Based on the accident data provided by SCDOT, the following trends are reflected:

- The highest number of 'hot spots' occur along Main Street (US 17A), Berlin Myers Parkway (SC 165), Old Trolley Road, and Fifth Street North (US 78).
- Many of the hot spots locations are in and around the Downtown area of Summerville.
- The highest number of accidents occurred at the 'five-points' intersection of Main Street (US 17A) and Carolina Avenue, which had a total of 46 accidents from 2004 to 2006.
- The highest number of injury accidents occurred at Berlin Myers Parkway and Gahagan Road, where 28 injuries were recorded in a total of 31 accidents. Also, a total of 15 injuries were recorded in a total of 15 accidents at US 78 and Maple Street. This would suggest accidents at these locations involved high rates of speed or other factors that lead to higher injury rates.

^{* -} Represents the roadways within the Town of Summerville that are included in the model network



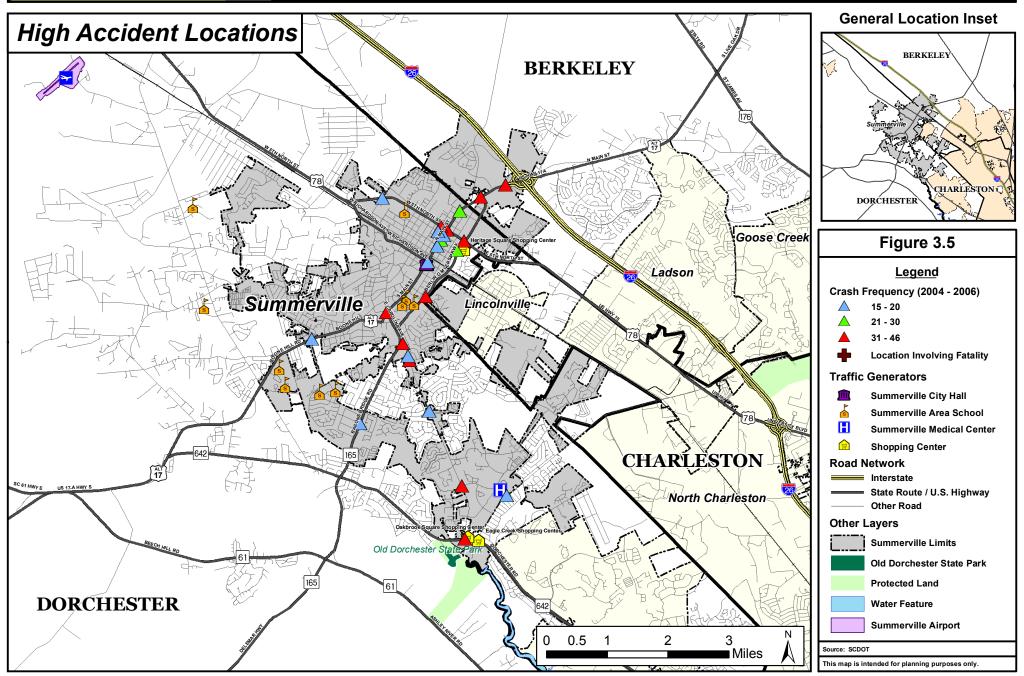




Table 3.4 - High Accident Locations - 2004-2006

Route	Intersecting Route	Accidents*		
		Total	Injuries	Fatalities
Main Street (US 17A)	Carolina Avenue	46	16	0
Main Street (US 17A)	Holiday Drive	39	17	0
Fifth Street North (US 78)	Berlin Myers Parkway (SC 165)	37	20	0
Main Street (US 17A)	Berlin Myers Parkway (SC 165)	37	11	0
Dorchester Road (SC 642)	Old Trolley Road	35	19	0
Old Trolley Road	Midland Parkway	35	21	0
Bacons Bridge Road (SC 165)	Old Trolley Road	34	18	1
Main Street (US 17A)	Fifth Street North (US 78)	33	12	0
Fifth Street North (US 78)	N. Cedar Street	32	15	1
Old Trolley Road	Miles Jamison Road	32	8	0
Berlin Myers Parkway (SC 165)	Gahagan Road	31	28	0
Main Street (US 17A)	Third Street North	25	14	0
Berlin Myers Parkway (SC 165)	Third Street North	23	19	0
Main Street (US 17A)	Ninth Street North	22	12	0
Main Street (US 17A)	Richardson Avenue	20	4	0
Ladson Road	Midland Parkway	19	15	0
Old Trolley Road	Crestview Road	18	11	0
Boone Hill Road (US 17A)	Luden Road	18	10	0
Main Street (US 17A)	Second Street North	17	6	0
Old Trolley Road	Stallsville Road	17	3	0
Bacons Bridge Road (SC 165)	Lee Street	16	13	0
Main Street (US 17A)	Fourth Street North	16	5	0
N. Cedar Street	Fourth Street North	16	4	0
Fifth Street North (US 78)	Maple Street	15	15	0

Source: South Carolina Department of Transportation, 2006

3.5 Connectivity

Street connectivity is a measure that is critical to analyzing the possibility of re-routing traffic to relieve pressures on severely overburdened facilities. In its most basic form, street connectivity is a measure of the number of parallel facilities in an area that allow for multiple routing options.

^{* -} Includes only those accidents investigated by the Summerville Police Department



Overall, the Town's roadway network is characterized be fairly good connectivity. This is particularly true for the portion of the Town in and around downtown, which is characterized by a grid system typical of traditional town centers. Beyond the downtown area, the roadway network is a bit more disconnected at a street level, but the Town is served by several effective connectors such as Central Avenue, Beverly Road, Miles Jamison Road, Parsons Road, and Midland Parkway. The areas that generally lack roadway connectivity the most are located in the southern portion of the Town between Old Trolley Road and Bacons Bridge Road (SC 165) and between Boone Hill Road (US 17A) and Bacons Bridge Road. This lack of connectivity is greatly attributed to the presence of the Sawmill Branch waterway, which requires a bridge crossing for connectivity. This lack of connectivity provides very little travel alternatives to these areas and, therefore, access to these areas is provided almost exclusively via Bacons Bridge Road and Old Trolley Road.



4.0 Future Roadway Characteristics

This section of the report describes the future conditions of the Town's roadway network given the roadway improvements planned or programmed through the year 2030 and the anticipated growth patterns throughout the Town.

4.1 Future Roadway Improvements

There are several roadway projects either planned or programmed for the Town of Summerville. These projects have been identified through one of three sources:

- The CHATS Long Range Transportation Plan includes both long range and short term projects that have been prioritized to receive Federal and State funding for implementation throughout the Charleston urbanized area, which includes the Town of Summerville;
- The Dorchester Special Local Option Sales Tax Project List includes several projects that are scheduled for implementation through the duration of the program and, therefore, have been programmed for implementation through 2011; and
- The 1998 Town of Summerville CTP includes a list of projects based on local needs at the time the plan was developed.

These projects are shown on **Figure 4.1** and listed in **Table 4.1**. For ease of review, the table of improvements has been organized by their identification number as shown in the map on the following page. As **Table 4.1** indicates, several of planned roadway projects are included in more than one of these lists. In total, there are a total of 24 future roadway improvements planned within the Town and, of these, nine are programmed for construction between late 2006 and February 2011.

4.2 Projected Roadway Volumes

As detailed in Section 1.4, the two future year travel demand model from CHATS were refined to be more reflective of the land uses planned within the Town. During this process, projected population and employment totals within the traffic analysis zones of the model were adjusted pursuant to the development outlaid within the Town's Future Land Use Map. Through the application of the revised version of the CHATS model, future roadway volumes were determined that reflect the projected development trends within the Town. Two model runs were completed as part of this analysis:

- 2030 CHATS (Summerville CTP) Existing Plus Committed (E+C) Network This version of the CHATS model projects travel demand that would occur on the existing roadway network given the revised 2030 population and employment projections within the Plan Study Area.
- 2030 CHATS (Summerville CTP) Build Network This version of the CHATS model projects travel demand that would occur on the Town's roadway network given the revised 2030 population and employment totals and the completion of all of the planned improvements for the Study Area and Charleston region.



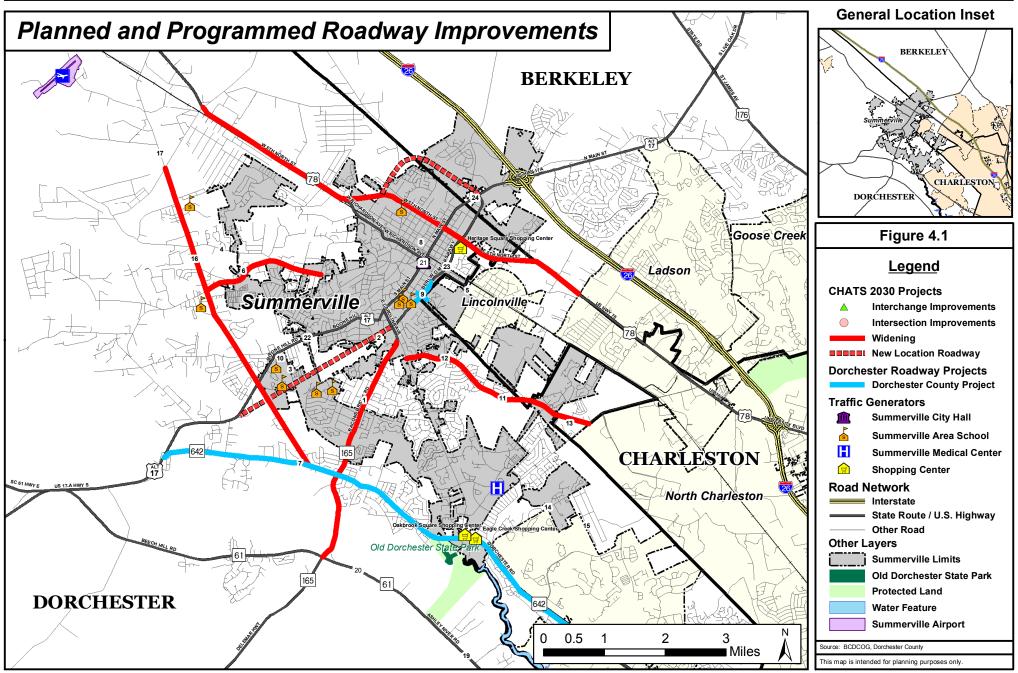




Table 4.1 – Planned and Programmed Roadway Improvements
Page 1

Map ID	Location	Source			_
		1998 Plan	CHATS (ID)	SPLOST	Description
1	Bacons Bridge Road	Х	X (21)		Widening roadway from 2 lanes to 4 lanes with center turning lanes from end of 4-lane sections to SC 61. Includes intersection alignment at Mikel Drive and Edisto Drive. Total project length 4.0 miles.
2	Berlin G. Myers Parkway	Х	X (11)	Х	Phase III - Complete construction from SC165 to US17-A
3	Berlin Myers to Green Wave Connector	X			Connecting roadway
4	Butternut Road		X (22)		Central Ave to Old Orangeburg Rd - widen to multilanes w/ median
5	Carolina Avenue	X			Improve signing along US 78 and Berlin Myers Pkwy to route through traffic along these corridors. Town staff and area residents jointly study feasibility and desirability of various traffic calming features (such as all-way stops, small roundabouts, speed tables, and textured pavers) at selected intersections
6	Central Avenue			Х	Widen existing roadway from 20 feet to 24 feet and resurface. Intersection improvements at Parsons Road, realignment of roadway at Road S-18-215, and replacement of Brick Arch Culvert. Total project length is 6.7 miles
7	Dorchester Road	X (Intersection w/ Bacons Bridge Rd)	X (20)	Х	Widening the current 2-lane section to 4 lanes with left and right turn lanes from Oakbrook just west of Old Trolley Road to US Route 17-A. The project has a total length of 5.3 miles
8	Downtown Summerville	Х			Parking and aesthetic improvements
9	Gahagan Road			Х	Intersection improvement at Gahagan Road and Berlin G. Myers Parkway



Table 4.1 – Planned and Programmed Roadway Improvements

Page 2

Мар	Location	Source			Description
ID		1998 Plan	CHATS (ID)	SPLOST	Description
10	Green Wave Blvd	Х			Loop roadway around high school and middle school. Upgrade cross secions on existing segments as needed for conformity. Construct connection between Summerville HS parking lot and Green Wave Blvd
11	Jamison Road	Х			Left turn lanes and right turn deceleration lanes at major intersections along the corridor
12	Jamison Road at Gahagan Road	Х			Signalize intersection in conjunction with laneage improvements along corridor
13	Maple Street Extension/ Berlin Myers North Extension	Х	X (23)		Maple Street to Berlin Myers Parkway - New Location - 2 lanes
14	Old Fort Drive			Х	Extension of Old Fort Drive from Old Fort Estates to Ladson Road. Total project length 1.2 miles
15	Old Fort Drive			Х	Construction of Old Fort Drive from Oakbrook Elementary to Palmetto Commerce Parkway
16	Old Orangeburg Road / Jedburg Road	X (Intersection w/ US 17A)	X (48)		Dorchester Road to I-26 - widen from 2 to 4 lanes
17	Old Orangeburg Road			Х	Widening existing roadway from 20 feet to 24 feet. Resurfacing from Dorchester Road to Berkeley County Line. Intersection improvements at Road S-18-35. Total project length is 9.39 miles.
18	Richardson Ave	Х			Repaving and geometric improvements (channelization, increased turn radii, center turn lane on Richardson Ave) to handle log truck traffic moving between Parsons Rd and Maple Dr



Table 4.1 – Planned and Programmed Roadway Improvements

Page 3

Мар	Location	Source			Description	
ID		1998 Plan	CHATS (ID)	SPLOST	Description	
19	SC 61 Expressway		X (12B)		Village Green to Dorchester Road - new location multilanes w/ median	
20	SR 61 Expressway		X (Vision-13)		Multilanes w/ median	
21	US 17A at Carolina Ave	Х			Minor realignment of US 17A approach, with eclusive right turn lane onto Carolina Ave. Lane reconfiguartion on northbound Carolina Ave. (exclusive left turn lane and shared through / right lane). Prohibit right turns from EB US 17A onto Pine Grove St. Prohibit left turns at intersection of Pine Grove St. and Carolina Ave. Minor reconstruction at either end of Pine Grove St.	
22	US 17A at Luden Rd	Х			Realign Luden Rd and Hutson Dr approaches to convert the existing offset "T" intersection to a regular intersection with four approaches. Include left turn lanes on north/south approaches and right turn deceleration lanes on US 17A	
23	US Route 78	Х	X (14)	Х	Construction of 6.6 miles of 3-lane highway with passing lanes in sections. Roadway will begin at SC165 and continue to the beginning of the 4-lane section in St. George. Intersections will be improved at Jedburg Rd. and Deming Way Rd.	
24	US17A Backside Access Corridor	Х			Develop backside access corridor between Berkeley Cir (possible extension of Berlin Myers Pkwy) and Holiday Dr to serve businesses located along north side of US 17A. In conjunction with corridor development, explore possibility of restricting turns to and from US 17A	

^{*} The Vision Plan can be considered a "wish list" of projects. It includes committed projects and those expected to be funded by the Dorchester County SPLOST, as well as additional projects to address remaining deficiencies.



4.2.1 2030 CHATS (Summerville CTP) Existing Plus Committed Network

The projected roadway volumes derived from the 2030 CHATS (Summerville CTP) Existing Plus Committed Network (2030 E+C Network), as described on Page 4-1, are shown in **Figure 4.2**. The roadway segments with the highest daily traffic volumes projected under the E+C network are presented below in **Table 4.2**.

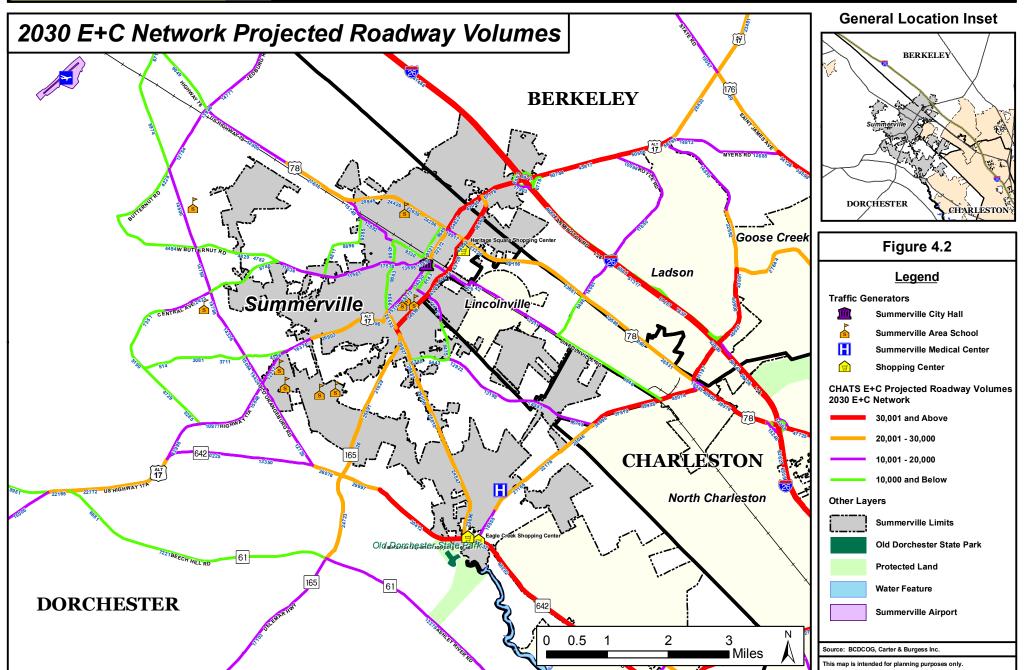
Table 4.2 – Roadways with Highest Projected Volumes – 2030 E+C Network

Roadway Segment	Projected Range of 2030 Daily Trips
Main Street (US 17A) from Berlin Myers Parkway to I-26	57,000 - 81,000
Dorchester Road (SC 642) from Old Trolley Road to Wescott Drive	48,200 - 49,500
Ladson Road from Miles Jamison Road to US 78	35,000 - 45,000
Berlin Myers Parkway from Gahagan Road to Fifth Street N. (US 78)	44,100 - 44,800
Carolina Avenue from Old Trolley Road to Berlin Myers Parkway	43,000*
Berlin Myers Parkway from Carolina Avenue to Gahagan Road	34,600*
Main Street (US 17A) from Fifth Street N. (US 78) to Berlin Myers Pkwy.	34,000 - 42,000
Berlin Myers Parkway from Fifth Street N. (US 78) to Main Street (US 17A)	27,100 - 38,600
Dorchester Road (SC 642) from Old Orangeburg Road to Old Trolley Road	26,100 - 30,400
Old Trolley Road from Berlin Myers Parkway to Dorchester Rd. (SC 642)	23,700 - 29,600
Fifth Street N. (US 78) from Richardson Avenue to Owens Drive	20,100 - 29,200
Boone Hill Road (US 17A) from Carolina Avenue to Luden Road	23,900 - 28,600
Carolina Avenue from Berlin Myers Parkway to Main Street (US 17)	25,100*
Bacons Bridge Rd. (SC 165) from Old Trolley Road to Dorchester Rd. (SC 642)	20,700 - 25,100
Main Street (US 17A) from Richardson Avenue to Fifth Street N. (US 78)	22,300 - 24,100
Ladson Road from Midland Parkway to Miles Jamison Road	21,200 - 23,000

Source: CHATS 2030 E+C Travel Demand Model, Town of Summerville Future Land Use Map

^{*} Projections without ranges reflect short roadway segments





Town of Summerville, South Carolina



As shown in **Table 4.2**, the roadway segments projected to carry the highest volumes of traffic are the major east-west thoroughfares of Main Street (US 17A), Berlin Myers Parkway, Dorchester Road (SC 642), and Ladson Road and the roadways connecting these facilities such as Carolina Avenue, Old Trolley Road, and Bacons Bridge Road (SC 165). When compared to the 2005 traffic counts (provided in **Table 3.3**), these roadway segments are also projected to experience the most overall growth in traffic volumes under the 2030 E+C network.

4.2.2 2030 CHATS (Summerville CTP) Build Network

The projected roadway volumes derived from the 2030 CHATS (Summerville CTP) Build Network (2030 Build Network), as described on page 4-1, will deviate slightly from those in the 2030 E+C Network because the network includes additional capacity along roadways that are planned for improvement. The 2030 Build Network projected roadway volumes are shown in **Figure 4.3**. The roadway segments with the highest daily traffic volumes projected under the 2030 Build Network are presented below in **Table 4.3**.

As shown in Table 4.3, many roadways projected to carry the highest volumes within the 2030 Build Network are the same as those facilities in the 2030 E+C Network. A more detailed comparison between the projected volumes within the two networks is provided in the section that follows.

4.2.3 Network Comparison

A comparison of the volumes along roadway segments with the highest volumes within the 2030 E+C and 2030 Build Networks is provided in **Table 4.4**. By comparing the results of the two 2030 future year networks, an analysis of the impacts to projected roadway volumes within the Town as a result of the implementation of the planned roadway improvements within and around the Town of Summerville (see **Table 4.1**) can be developed. Some of the potential implications of implementing these improvements are as follows:

- By carrying a projected 19,000-23,000 trips per day, the Berlin Myers Parkway Extension will reduce the amount of through traffic along the other east-west thoroughfares within the Town. The roadways with the greatest projected reductions of travel demand are Boone Hill Road (US 17A) and Bacons Bridge Road (SC 165).
- By redirecting through traffic off Boone Hill Road (US 17A), travel demand along Carolina Avenue will also be reduced. Through traffic along Main Street (US 17A) would also decrease slightly.
- The implementation of planned roadway improvements would also slightly reduce travel demand along the existing segments of Berlin Myers Parkway from Gahagan Road to Main Street (US 17A), but slightly increase travel along the roadway from Carolina Avenue to Gahagan Road.
- The widening Dorchester Road (SC 642) will increase travel demand along the roadway, but will reduce the amount of travel along Ladson Road.



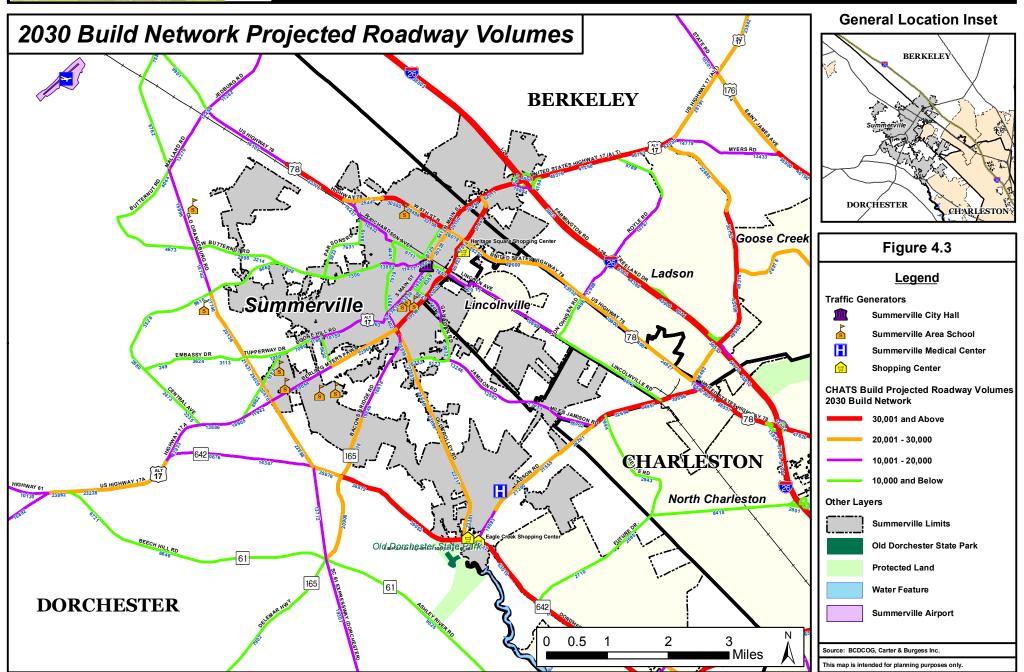




Table 4.3 – Roadways with Highest Projected 2030 Volumes – Build Network

Roadway Segment	Projected Range of 2030 Daily Trips
Main Street (US 17A) from Berlin Myers Parkway to I-26	52,700 - 76,500
Dorchester Road (SC 642) from Old Trolley Road to Wescott Drive	53,100 – 55,300 (W)
Berlin Myers Parkway from Gahagan Road to Fifth Street N. (US 78)	40,300 - 42,500
Ladson Road from Miles Jamison Road to US 78	32,600 – 39,600
Dorchester Road (SC 642) from Old Orangeburg Road to Old Trolley Road	25,600 - 39,000 (W)
Main Street (US 17A) from Fifth Street N. (US 78) to Berlin Myers Pkwy.	30,100 - 38,900
Carolina Avenue from Old Trolley Road to Berlin Myers Parkway	38,300*
Berlin Myers Parkway from Fifth Street N. (US 78) to Main Street (US 17A)	27,600 - 37,400
Berlin Myers Parkway from Carolina Avenue to Gahagan Road	37,300*
Fifth Street N. (US 78) from Richardson Avenue to Main Street (US 17A)	25,400 – 33,200 (W)
Old Trolley Road from Berlin Myers Parkway to Dorchester Rd. (SC 642)	23,700 - 29,600
Fifth Street N. (US 78) from Main Street (US 17A) to Berlin Myers Parkway	26,100 – 27,400
Fifth Street N. (US 78) from Berlin Myers Parkway to Owens Drive	21,000 – 25,300
Old Orangeburg Road from Central Avenue to Dorchester Road (SC 642)	20,100 – 25,000 (W)
Berlin Myers Parkway from Old Orangeburg Road to Carolina Avenue	19,100 – 23,000 (N)
Ladson Road from Midland Parkway to Miles Jamison Road	19,900 - 22,300
Main Street (US 17A) from Richardson Avenue to Fifth Street N. (US 78)	20,300 - 22,100
Bacons Bridge Rd. (SC 165) from Old Trolley Road to Dorchester Rd. (SC 642)	16,600 - 21,200 (W)
Carolina Avenue from Berlin Myers Parkway to Main Street (US 17)	16,402*

Source: CHATS 2030 Build Travel Demand Model, Town of Summerville Future Land Use Map

^{*} Projections without ranges reflect short roadway segments

⁽W) Existing roadway segment to be widened in 2030 Build Network

⁽N) New roadway segment included in 2030 Build Network



Table 4.4 - Projected 2030 Volumes - Network Comparison

ROADWAY SEGMENT	2030 E+C NETWORK	2030 BUILD NETWORK
Main Street (US 17A)		
Berlin Myers Parkway to I-26	57,000 - 81,000	52,700 - 76,500
Fifth Street N. (US 78) to Berlin Myers Pkwy.	34,000 - 42,000	30,100 - 38,900
Richardson Avenue to Fifth Street N. (US 78)	22,300 - 24,100	20,300 - 22,100
Carolina Avenue to Richardson Avenue	14,000 – 15,300	13,600 – 15,000
Berlin Myers Parkway		
Fifth Street N. (US 78) to Main Street (US 17A)	27,100 - 38,600	27,600 - 37,400
Gahagan Road to Fifth Street N. (US 78)	44,100 - 44,800	40,300 - 42,500
Carolina Avenue to Gahagan Road	34,600*	37,300*
Old Orangeburg Road to Carolina Avenue	N/A (N)	19,100 – 23,000 (N)
Dorchester Road (SC 642)		
Old Trolley Road to Wescott Drive	48,200 - 49,500	53,100 – 55,300 (W)
Old Orangeburg Road to Old Trolley Road	26,100 - 30,400	25,600 - 39,000 (W)
Fifth Street North (US 78) Richardson Avenue to Main Street (US 17A)	20,100 - 29,200	25,400 – 33,200 (W)
Main Street (US 17A) to Berlin Myers Parkway	20,100 - 29,200	26,100 – 27,400
Berlin Myers Parkway to Owens Drive	20,200 - 23,700	21,000 – 25,300
Berlin Myers Farkway to Owerls Drive	20,200 - 23,700	21,000 – 25,300
Carolina Avenue		
Main Street (US 17A) to Richardson Avenue	4,400 - 10,000	4,400 - 8,900
Berlin Myers Parkway to Main Street (US 17A)	25,100*	16,402*
Old Trolley Road to Berlin Myers Parkway	43,000*	38,300*
Other Roadways with High Volume Projection	ıs	
Ladson Road from Miles Jamison Road to US 78	35,000 - 45,000	32,600 – 39,600
Ladson Road from Midland Parkway to Miles Jamison Road	21,200 - 23,000	19,900 - 22,300
Old Trolley Road from Carolina Avenue to Dorchester Road (SC 642)	23,700 - 29,600	23,700 - 29,600
Boone Hill Road (US 17A) from Carolina Avenue to Luden Road	23,900 - 28,600	10,100 – 12,600
Bacons Bridge Rd. (SC 165) from Old Trolley Road to Dorchester Road (SC 642)	20,700 - 25,100	16,600 - 21,200 (W)
Old Orangeburg Road from Central Avenue to Dorchester Road (SC 642)	12,700 - 15,400	20,100 – 25,000 (W)

Source: CHATS 2030 E+C and 2030 Build Travel Demand Models, Town of Summerville Future Land Use Map

* Projections without ranges reflect short roadway segments

⁽W) Existing roadway segment to be widened in 2030 Build Network

⁽N) New roadway segment included in 2030 Build Network



4.3 Projected Roadway Level of Service

In order to assess the overall effectiveness of the planned improvements on the functionality of the Town's roadways, a LOS analysis was conducted for the 2030 E+C and 2030 Build Networks given their projected volumes and the conditions they would create given the capacities within each of the networks.

4.3.1 2030 CHATS (Summerville CTP) Existing Plus Committed Network

As stated in the previous section, the 2030 E+C Model projects travel demand that would occur on the existing roadway network given the revised 2030 population and employment totals within the Study Area. A map of the LOS that results from the 2030 E+C Model is provided on **Figure 4.4**. As shown, most of the major roadways within the Town would function at LOS E or F, which represents functioning at or above capacity. Segments of major roadways projected to perform at these LOS include:

Principal Arterials

- Main Street (US 17A) from Berlin Myers Parkway to I-26
- Berlin Myers Parkway from Carolina Avenue to Main Street (US 17A)
- US 78 from Richardson Avenue to Charleston County Line
- Dorchester Road (SC 642) from Old Orangeburg Road to Wescott Drive

Minor Arterials

- Boone Hill Road (US 17A) from Green Wave Boulevard to Carolina Avenue
- Main Street (US 17A) from Carolina Avenue to Sixth Street South
- Main Street (US 17A) from Fifth Street North (US 78) to Berlin Myers Parkway
- Bacons Bridge Road (SC 165) from Stallsville Road to Dorchester Road (SC 642)
- Carolina Avenue from Main Street (US 17A) to Bacons Bridge Road (SC 165)
- Ladson Road from Miles Jamison Road to US 78

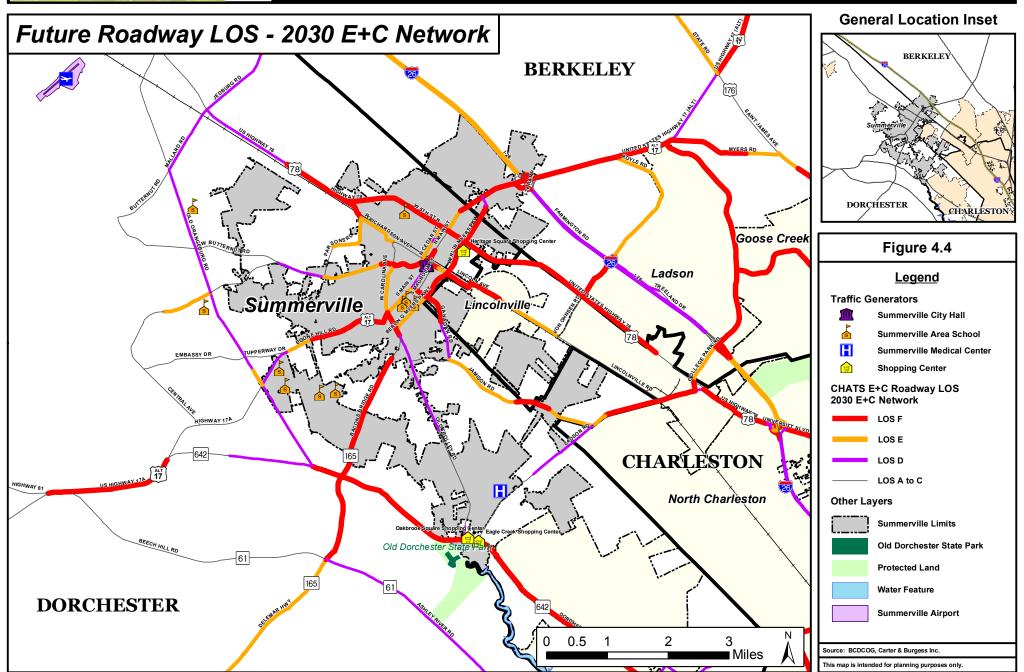
Collectors

- Central Avenue from Parsons Road to Main Street
- Miles Jamison Road from Gahagan Road to Ladson Road
- Richardson Avenue from Carolina Avenue to Fifth Street North (US 78)
- Richardson Avenue from Cedar Street to Lincolnville
- Sixth Street South/Gahagan Road from Main Street (US 17A) to West Boundary Street

Local Roads

- Carolina Avenue from Central Avenue to Main Street (US 17A)
- Cedar Street from Richardson Avenue to Fifth Street North (US 78)
- Parsons Road from Richardson Avenue to Central Avenue







4.3.2 2030 CHATS (Summerville CTP) Build Network

As stated previously, the 2030 Build Model projects travel demand that would occur on the existing roadway network given revised 2030 population and employment projections and the implementation of roadway improvements planned within the Study Area. A map of the LOS that results from the 2030 Build Model is provided on **Figure 4.5**. As shown, even with the implementation of the planned roadway improvements, several of the major roadways within the Town would function at LOS E or F. These roadway segments include:

Principal Arterials

- Main Street (US 17A) from Berlin Myers Parkway to I-26
- Berlin Myers Parkway from Carolina Avenue to Main Street (US 17A)
- US 78 from Palmetto Street to Main Street (US 17A)
- US 78 from Owens Drive to Charleston County Line
- Dorchester Road (SC 642) from Old Orangeburg Road to Parler Drive

Minor Arterials

- Main Street (US 17A) from Ninth Street North to Berlin Myers Parkway
- Bacons Bridge Road (SC 165) from Stallsville Road to Woodland Drive
- Carolina Avenue from Main Street (US 17A) to Bacons Bridge Road (SC 165)
- Ladson Road from Miles Jamison Road to US 78

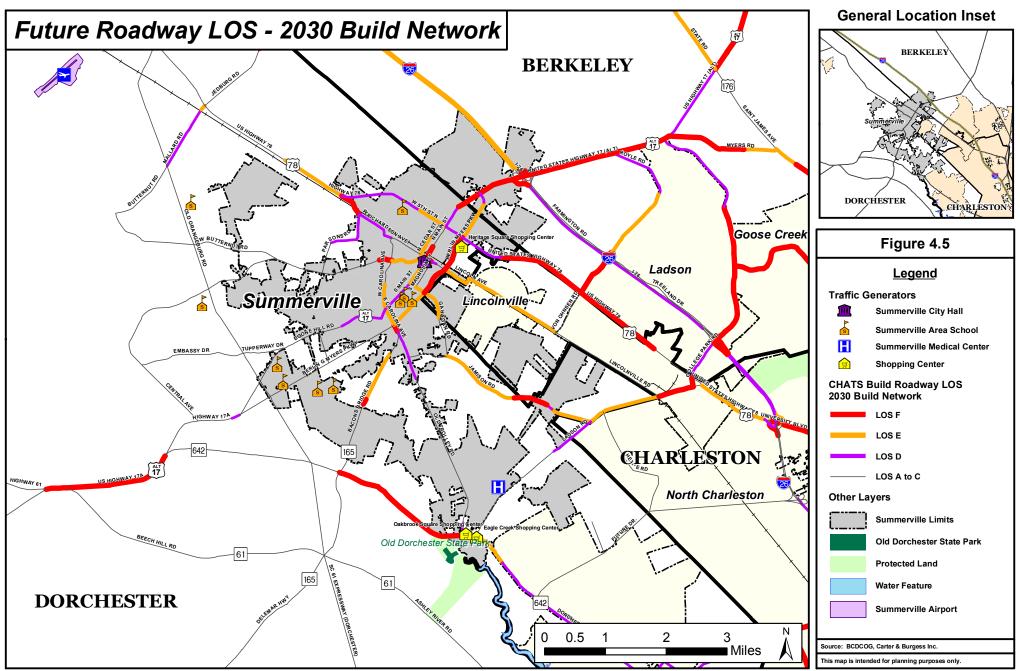
Collectors

- Central Avenue from Postern Road to Richardson Avenue
- Miles Jamison Road from Gahagan Road to Ladson Road
- Richardson Avenue from Berlin Myers Parkway to Lincolnville
- Sixth Street South/Gahagan Road from Main Street (US 17A) to West Boundary Street

Local Roads

- Carolina Avenue from Sumter Avenue to Main Street (US 17A)
- Cedar Street from Richardson Avenue to Fifth Street North (US 78)







4.3.3 Network Comparison

The breakdown of LOS for roadways within the Study Area and those within the Town limits is provided below for both the 2030 E+C and 2030 Build Models:

	2030 E+C Model Run				2030 Build Model Run			
	Study Area		Town Network*		Study Area		Town Network*	
	Miles	%	Miles	%	Miles	%	Miles	%
LOS D	41.8	30.0	4.0	15.6	33.9	48.2	6.0	22.0
LOS E	22.6	16.3	6.0	23.2	23.1	15.7	5.6	20.2
LOS F	36.1	26.0	10.5	40.7	19.0	12.9	3.0	10.9

Source: 2030 CHATS E+C and Build Travel Demand Models, Town of Summerville Future Land Use Map

As shown above, the implementation of the planned improvements through the year 2030 will greatly reduce the miles of congested roadways within the Town. Overall, the miles of congested roadways (LOS E and F) decrease from 16.5 miles to 8.6 miles with the planned improvements. A more detailed analysis of how the implementation of planned improvements in and around will impact specific corridors is provided below:

Main Street (US 17A)

Main Street would remain at LOS F between Ninth Street North and I-26, but the segments between Ninth Street North and Fifth Street North (US 78) and between Sixth Street South and Carolina Avenue would improve from LOS E to LOS D. The only segment of the roadway that would function worse with the planned improvements is that between Richardson Avenue and Sixth Street South, which would operate at LOS E as opposed to an LOS D under the 2030 E+C model.

Berlin Myers Parkway

Congested conditions would improve on segments between Fifth Street North and Main Street (US 17A), which would operate at LOS E as opposed to an LOS F under the 2030 E+C Model. All segments of the roadway extension from Carolina Avenue to Boone Hill Road (US 17A) would operate at LOS C or better. However, while overall volumes would decrease, the roadway would remain at LOS F between Fifth Street North (US 78) and Gahagan Road and at LOS E between Gahagan Road and Carolina Avenue.

Dorchester Road (SC 642)

The roadway would continue to function at LOS F between Old Orangeburg Road and Old Trolley Road. East of Old Trolley Road, the planned widening of Dorchester Road would improve the conditions from LOS F to LOS E from Old Trolley Road to Parler Drive and from LOS F to LOS D from Parler Drive to Charleston County.

Carolina Avenue

The roadway would continue to function at LOS F between Berlin Myers Parkway and Bacons Bridge Road, but the segment north of Berlin Myers to Main Street (US 17A) would improve from LOS F to LOS E. In addition, the segment of West Carolina Avenue operating at LOS E would be lessened would only extend from Main Street (US 17A) to Sumter Avenue, as opposed to Central Avenue under the 2030 E+C Model.

^{* -} Represents the roadways within the Town of Summerville that are included in the model networks



Boone Hill Road (US 17A)

Congestion along the roadway would be reduced greatly. The segment between Luden Road and Carolina Avenue would improve from LOS F to LOS D. Also, the segment between Luden Road to Old Orangeburg Road would improve from LOS D and E to LOS C or better. This improvement can be attributed in large part to the construction of the Berlin Myers extension, which will redirect a large amount of through traffic off of the roadway.

Bacons Bridge Road (SC 165)

Congestion along the roadway would also be reduced greatly. This is due primarily to the planned widening of the roadway and the construction of the Berlin Myers Parkway extension, which will also redirect through traffic off of the roadway. LOS along the roadway would improve from LOS F to LOS E from Stallsville Road to Live Oak Road and from LOS F to LOS C or better from Woodland Drive to Dorchester Road (SC 642).

Fifth Street North (US 78)

Under the 2030 E+C Model, the entire length of the roadway through the Town is projected to operate at LOS F. Planned improvements from Berlin Myers Parkway to St. George will reduce congestion along the roadway north of Berlin Myers Parkway. The roadway would improve from LOS F to LOS D between Palmetto Street and Richardson Avenue and LOS E between Palmetto Street and Main Street (US 17A). The roadway is also projected to improve to LOS D between Main Street (US 17A) and Owens Drive under the 2030 Build Model.

Old Trolley Road

With the recently completed widening of the roadway, no segments of Old Trolley Road are projected to operate at LOS E or F with or without the implementation of planned improvements. The number of segments along the roadway projected to operate at LOS D would be less under the 2030 Build Model, with the segment between Briarwood Avenue and Savannah Round operating at LOS C or better.

Richardson Avenue

The projected level of congestion along the roadway would be reduced under the 2030 Build Model. The segments between Carolina Avenue and Parsons Road and from Cedar Street to Berlin Myers Parkway would improve from LOS E to LOS D. The segment from Berlin Myers Parkway to Lincolnville would also improve from LOS F to LOS E.

Central Avenue

Most of the congested segments of this roadway under the 2030 E+C model would be improved under the 2030 Build. The segment from Main Street (US 17A) to Carolina Avenue would improve from LOS F to LOS E and the segment from Postern Road to Butternut Road would improve from LOS D and E to LOS C or better.

Miles Jamison Road

The improvements planned in and around the Town have very little impact on this roadway. The segment of Miles Jamison between Gahagan Road and Ladson Road would operate at LOS E and F and the remainder operates at LOS C or better under both the 2030 E+C and 2030 Build Models.



5.0 School Related Transportation Issues

An often overlooked component of the transportation network is how it performs in the context of meeting the demands for school related travel. On January 19, 2007, an interview was conducted with representatives from the Dorchester School District 2 in order to identify transportation issues related to the schools in and around the Town of Summerville. For ease of review, the comments received from the School Board representatives have been organized by the areas of the Town where the schools are located. The following school areas were discussed:

- Summerville High School, Gregg Middle School
- Summerville Elementary, Spann Elementary, Rollings Middle School of the Arts
- Flowertown Elementary School, Newington Elementary School
- Alston Middle School
- DuBose Middle School, (Future) Reeves Elementary
- Knightsville Elementary

A map of the school areas is shown in Figure 5.1.

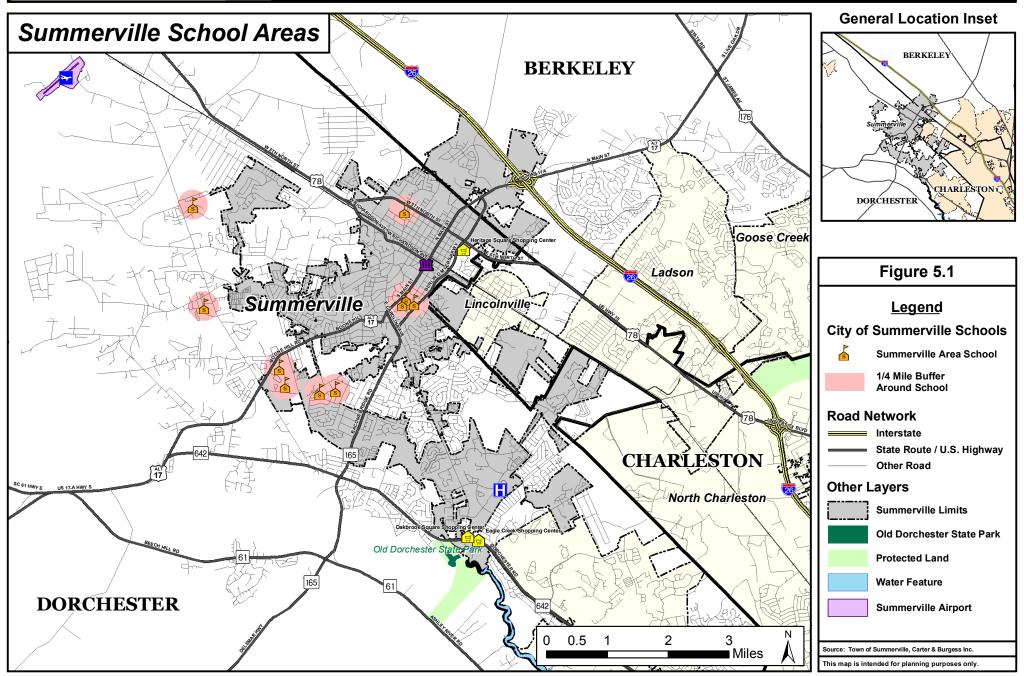
Summerville High School, Gregg Middle School - These schools are located east of the intersection of Boone Hill Road (US 17A) and Old Orangeburg Road.

- There is no eastbound right turn lane into either of the schools on Boone Hill Road, which creates a great deal of congestion due to the large amount of through traffic combining with school traffic. The westbound left turn lane into Summerville High School also needs to be extended considerably to accommodate more vehicles.
- Operational improvements are needed at the intersection of Luden Road and Boone Hill Road as traffic often backs up considerably at this location.
- Pedestrian facilities in this area are sorely needed. Other than directly in front of the school facility, there are sidewalks on only one side of Boone Hill Road. There have been several accidents associated with students crossing the roadway to access the sidewalk. Crosswalks are also needed at the school and at the intersection of Luden Road and Boone Hill Road.
- The extension of Berlin G. Myers will help reduce these problems by redirecting a great deal of through traffic off Boone Hill Road and also provide access to the facilities via an interchange at Green Wave Boulevard.

Summerville Elementary, Spann Elementary, Rollings Middle School of the Arts – These schools are located at the southern end of the historic downtown area between Main Street (US 17A) and Berlin Myers Parkway.

- These schools were the original high school, middle school and elementary school for the Town. As such, they were constructed before traffic congestion and pedestrian safety became significant issues in the historic portion of Summerville.
- The primary issue within this area is associated with access to Summerville Elementary off of Main Street, either directly or via Richland Street.







 There is a serious need for pedestrian facilities to connect the schools to surrounding residential areas. The area is almost completely void of sidewalks.

Flowertown Elementary School, Newington Elementary School - These schools are located south of Sawmill Branch near the intersection of Luden Road and King Charles Circle.

- The greatest need for accessing these schools is better access to the roads providing access to the schools off Bacons Bridge Road, which are Lee Street and Edisto Drive. The northbound left turn lane onto Lee Street is not long enough to accommodate the school buses and the traffic signals along Bacons Bridge Road create congestion for southbound right turns onto Edisto Drive.
- Turn lanes are needed along King Charles Circle to provide better access to the two schools.
- The aforementioned needed operational improvements at Luden Road and Boone Hill Road would also help provide access to these schools, as well as Summerville High School and Gregg Middle School.
- Traffic calming measures in the vicinity of the schools should be considered.

Alston Middle School - This school is located on Fifth Street North (US 78) west of Bryan Street.

- Both eastbound right turn lanes and west bound turn lanes off of Fifth Street North (US 78) are needed to provide better access to the school.
- The most critical issue is the lack of pedestrian access to the school from the surrounding neighborhoods. The narrow width of Bryan Street presents a serious hazard for pedestrian access to the school. Better pedestrian access along and across Fifth Street North (US 78) is also a critical need.

DuBose Middle School, (Future) Reeves Elementary - These schools are located along DuBose School Road off of Old Orangeburg Road in the northwestern section of the Town (outside of the Town limits).

- The most significant transportation issue with accessing this area is the congestion at the intersection of Old Orangeburg Road and Butternut Road. Much of the congestion is created by traffic accessing Pinewood Preparatory School near this intersection during the same period of time as those accessing DuBose Middle School. Backups at this intersection are significant and operational improvements at this intersection are greatly needed.
- The area has virtually no pedestrian connections to surrounding neighborhoods. This is increasingly important as a large residential subdivision is being developed at the end of Hummingbird Lane.

Knightsville Elementary - This school is located near along the west side of Old Orangeburg Road just south of Central Avenue.

• The primary transportation need for access to this facility, as well as other schools within the western portion of Summerville, is operational improvements to be completed along

Town of Summerville, South Carolina



Central Avenue, which carries a significant amount of through traffic accessing downtown Summerville and I-26.

Better access to the facility from Old Orangeburg Road is needed via turn lanes.

Conclusions

- The primary recurring problem for schools throughout Summerville is a general lack of pedestrian facilities for students to use in order to provide access to and from surrounding residential areas. Since many areas of the Town are in need of sidewalks, these facilities should be given priority for new sidewalks and/or sidewalk expansion. Once completed, connecting these pedestrian nodes should serve as the basis for establishing a more comprehensive network of sidewalks throughout the Town.
- There are a number of operational issues along certain roadways that provide access to schools which create transportation problems in accessing these schools; however, many of these roadways are subject to planned capacity and/or operational improvements that could serve to alleviate or lessen the degree of these problems. Said improvements include:
 - The extension of Berlin Myers Parkway, which will reduce travel demand of through traffic along Boone Hill Road and provide alternative access to Summerville High School and Gregg Middle School.
 - The widening of Old Orangeburg Road, which will improve conditions at its intersections with Central Avenue and Butternut Road. Operational improvements to the approaches to Old Orangeburg Road along these roadways should be considered during the roadway widening design.
 - The operational improvements along Central Avenue, which will improve access to Knightsville Elementary, DuBose Middle and the future Reeves Elementary Schools.
 - The widening of US 78, which will improve access to Alston Middle School.
 - The widening of Bacons Bridge Road, which will improve access to Edisto Drive and Lee Street.



6.0 Bicycle and Pedestrian Facilities

Information on existing and proposed bicycle and pedestrian facilities within the Town of Summerville was provided by the Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) in cooperation with Dorchester County and the Town of Summerville. A map of these facilities is provided in **Figure 6.1**.

6.1 Bicycle Facilities

6.1.1 Existing Facilities

As shown on Figure 5.1, there are several designated bicycle routes within the Town, including Old Trolley Road, Ladson Road, and portions of Old Orangeburg Road, Fifth Street North (US 78), Main Street (US 17A), Boone Hill Road (US 17A), Dorchester Road (SC 642), Ridge Road, and Third Street North. In addition, a multiuse trail has been constructed along Sawmill Branch from Richardson Avenue to Dorchester Road (SC 642).

6.1.2 Potential Bicycle Facilities

The Charleston Area Transportation Study (CHATS) Long Range Transportation Plan (LRTP) was updated in 2005 and contains an element to guide future development of bicycle and pedestrian facilities. The Bicycle and Pedestrian Element of the LRTP was a culmination of planning efforts that have been completed by the since 1995. During the public involvement received during the 2005 LRTP update, several new bike routes improvements were recommended within the Town of Summerville and surrounding areas. Major potential future bike routes within the Town of Summerville were identified along the following roadways:

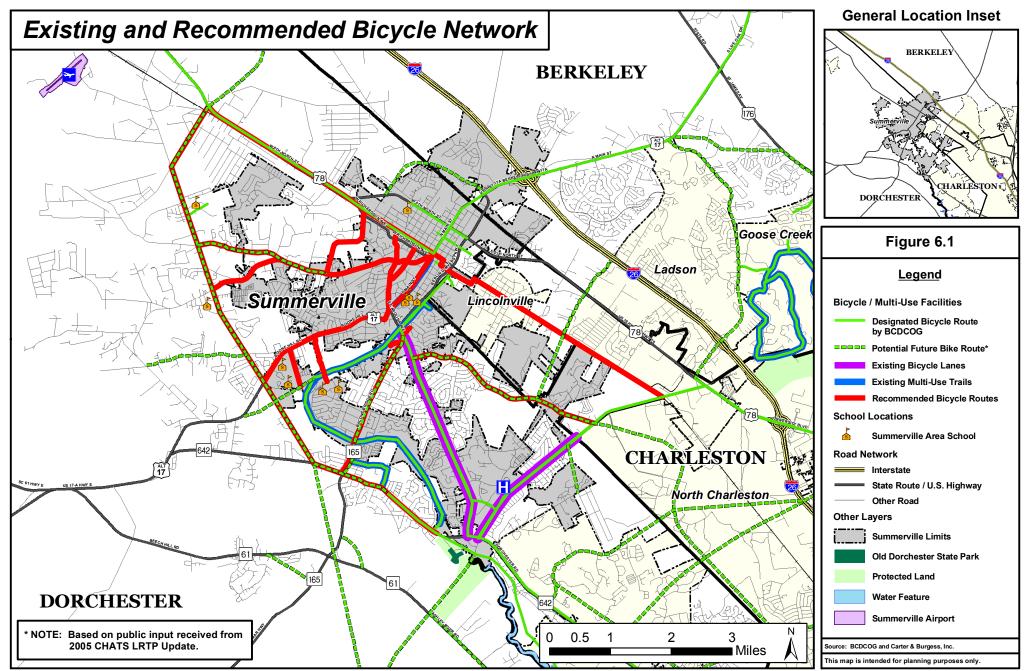
- Old Orangeburg Road and Jedburg Road from Dorchester Road (SC 642) to I-26;
- Bacons Bridge Road from Stallsville Road to Dorchester Road (SC 642);
- Miles Jamison Road from Old Trolley Road to Ladson Road;
- The proposed Maple Street Extension from Fifth Street North (US 78) to Main Street (US 17A);
- Central Avenue and West Butternut Road from Parsons Road to Old Orangeburg Road.

All of the potential bike routes identified during the 2005 LRTP update are shown in **Figure 6.1**.

Pursuant to input received from BCDCOG staff, a specific list of future bicycle improvements will be developed during the 2008 LRTP update.



Town of Summerville Comprehensive Traffic Plan





6.1.3 State and Local Guidelines

Town of Summerville

Among the contents of the Bicycle and Pedestrian Element of the 2030 CHATS LRTP are the results of a survey that was distributed to counties and municipalities throughout the Charleston region to address policies that could affect the development of bicycle and pedestrian facilities. Pursuant to the LRTP, the survey results identified several of the Town's policies that are favorable to the implementation of bicycle and pedestrian facilities, which include:

- The Town's Comprehensive Plan supports improvements to bicycle and pedestrian mobility and expresses support for greenways and/or trails;
- The Town's annual budget does include funding for sidewalk improvements;
- The Town's zoning ordinance permits residential and commercial densities that encourage compact, pedestrian friendly design;
- The Town's residential development ordinance addresses street design and requires sidewalks at least on one side of the street for new subdivisions;
- The Town's parking ordinance allows for side and rear lot parking in lieu of front lot parking and requires connections between sidewalks along the street and front entrances:
- The Town's street design standards do allow for traffic calming.

South Carolina Department of Transportation

The SCDOT Highway Design Manual produced in 2003 emphasizes the importance of constructing bicycle facilities on new roadways and offers several fiscally conservative methods of improving conditions for bicycle riders. In addition, an Engineering Directive Memorandum issued by SCDOT in 2003 affirms this focus on bicycle facilities and provides guidelines for the selection and design of bicycle facilities for new roadway projects.

Recent efforts have also been made by SCDOT to incorporate pedestrian facilities into standard roadway design. The Highway Design Manual states the following concerning sidewalk construction:

Generally, sidewalks are an integral part of city streets. For suburban residential areas, the construction of sidewalks is often deferred. However, sidewalks in rural and suburban areas are still often justified at points of community development such as schools, local businesses, shopping centers and industrial plants that result in pedestrian concentrations along the highway. If pedestrian activity is anticipated, include sidewalks as part of the construction.

The implementation of these directives were reflected in two roadway projects completed within the Town since 2003 - the widening of Ladson Road from Dorchester Road (SC 642) to US 78 and the widening of Old Trolley Road from Bacons Bridge Road to Dorchester Road (SC 642). Both roadways were constructed with bike lanes and sidewalks.



6.1.4 Bicycle Levels of Service

The most recent bicycle and pedestrian planning initiative undertaken by BCDCOG was a bicycle suitability analysis of the Charleston region. This analysis, completed in August 2006, analyzed roadways throughout the region and assigned a Bicycle Level of Service based on several factors, including roadway geometry, speed limits, and pavement conditions.

A map of the bicycle levels of service for roadways is provided in **Figure 6.2**. As shown, other than local roads, most of the arterial and collector roadways within the Town are characterized by an LOS of D or worse. According to this analysis, the worst roadway segments for bicycling were along Fifth Street North (US 78), Dorchester Road (SC 642), Berlin Myers Parkway, Boone Hill Road (US 17A), Main Street (US 17A), Miles Jamison Road, and Bacons Ridge Road (SC 165).

6.1.5 Bicycle Needs

In order to create a Town network that meets both its functional transportation and recreational needs, there are three main goals that need accomplished:

- Enhanced connectivity to the Sawmill Branch facility; and
- Enhanced connectivity to the downtown area of the Town; and
- Enhanced connectivity to the school areas within the Town.

A list of recommended improvements to meet these objectives is included in **Section 11** herein.

6.2 Pedestrian Facilities

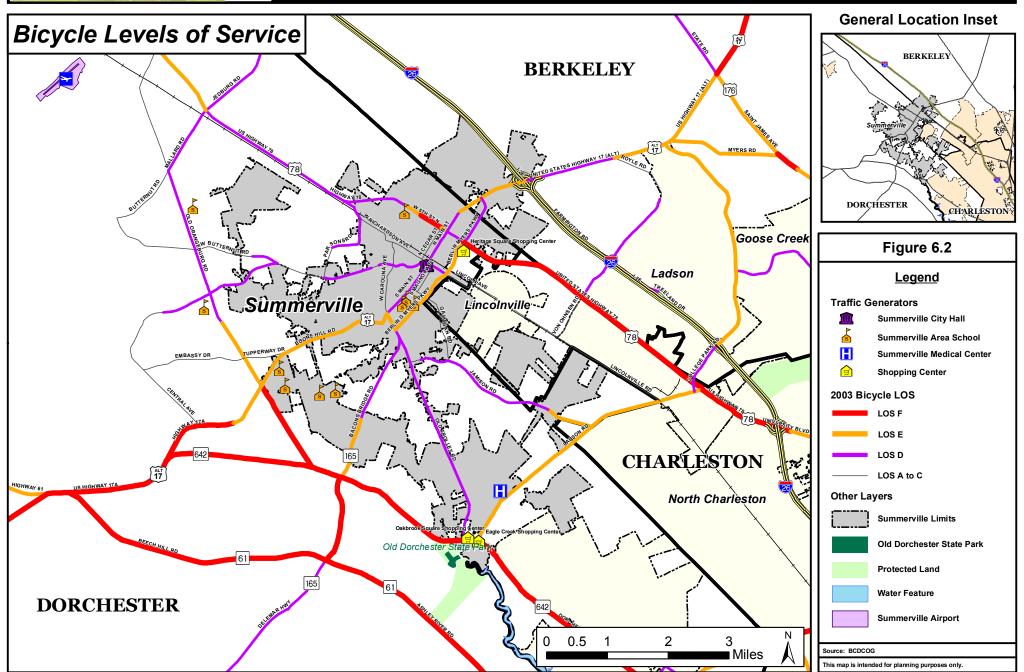
6.2.1 Existing Facilities

In general, there is a lack of sidewalks throughout the Town. Sidewalk locations within the Town are generally limited to areas in and around downtown and around the schools located near the intersection of Old Orangeburg Road and Boone Hill Road (US 17A). Sidewalks are also located along Berlin Myers Parkway, Main Street (US 17A) between Ninth Street North and I-26, and the recently widened Ladson Road and Old Trolley Road. A map of the existing sidewalks throughout the Town is shown in **Figure 6.1**.

6.2.2 Pedestrian Needs

The two primary focus areas for pedestrian needs are providing access to the school areas (discussed in Section 5 herein) and providing connectivity to existing facilities. As a result, a set of recommendations has been developed and discussed in further detail in Section 11 herein. A list of recommended improvements is included in **Table 11.5**.







7.0 Transit Services

7.1 Existing Conditions

As part of the region's urbanized area, the primary responsibility to provide service to the Town is that of the Charleston Area Regional Transit Authority (CARTA). While CARTA recognizes the need to provide some type of service, particularly express service, to the Town, funding limitations have made the provision of services to Summerville cost prohibitive to date.

The Town is served by a peak-hour route operated by the Berkeley-Charleston-Dorchester Regional Transportation Management Authority (RTMA). Route D-305 serves the Summerville area in southern Dorchester County before proceeding on to Lincolnville and North Charleston. The route begins at 6:25 a.m. in Moncks Corner and arrives at the Super K-Mart in North Charleston at 7:30 a.m. The Super K-Mart is the northernmost CARTA transfer point. In the afternoon, the route begins at the Super K-Mart at 5:00 p.m. and ends at the RTMA terminal at 6:15 p.m.

Prior to 2005, Route D-305 continued into downtown Charleston. In support of the CARTA request, the RTMA agreed to stop the route at the Super K-Mart in North Charleston. The rationale for stopping at this location was based on the availability of CARTA routes that serve that destination. Although the transfer options onto the CARTA system has expanded the number of potential destinations, the number of fixed route passengers has reduced since the route was revised. As part of a recent route analysis completed by the RTMA, an additional route was also proposed that would provide service from St. George to downtown Summerville via US 78.

In June 2006, CARTA completed a study to examine the potential for regional rail in the Charleston area. The study focused specifically on a 22-mile corridor from downtown Charleston to the Town of Summerville. The study cited the special geographic situation in the Charleston peninsula – one that funnels travel along a well-defined corridor – in conjunction with the existence of high quality rail lines and suburban districts that are expected to continue to experience healthy population growth as major factors for making commuter rail a viable transit option in the near future.

7.2 Future Needs and Recommendations

Given the travel demand characteristics of the Town, future transit service should focus on commuter related services and tying these services to serve the local shopping and employment centers. Therefore, the following transit initiatives are recommended for the Town:

- Continue to coordinate with CARTA for the establishment of commuter transit services, either through express bus or vanpools, with potential park-and-ride lots at either Heritage Shopping Center or the North Main Market Shopping Centers;
- Future circulator service along Main Street from Richardson Avenue to I-26 to provide access to shopping, employment, and linkage to future commuter services; and
- A circulator from Heritage Shopping Center to downtown to provide additional parking and alleviate congestion during special events.



8.0 Truck Traffic Analysis

Truck traffic characteristics have a profound impact on traffic operations throughout the transportation network on the town. The following section details the existing and projected truck traffic along the Town's roadways and identifies means to minimize negative impacts to the transportation network given the Town's projected growth in travel patterns.

The CHATS travel demand model was utilized to conduct this analysis, as it contains an estimated number of truck volumes from the 2003 base year and the 2030 future year.

8.1 Existing Conditions

Pursuant to outputs from the 2003 CHATS Base Year Model, the roadways with the highest number of overall truck trips are as follows:

- Main Street North (US 17A) from Ninth Street North to I-26
- Berlin G. Myers Parkway (SC 165) from Fifth Street North (US 78) to Sixth Street South/Gahagan Road
- Dorchester Road (SC 642) from Charleston County to Bacons Bridge Road (SC 165)

A map of the truck volumes along the Town's roadway network in 2003 is presented in **Figure 8.1**.

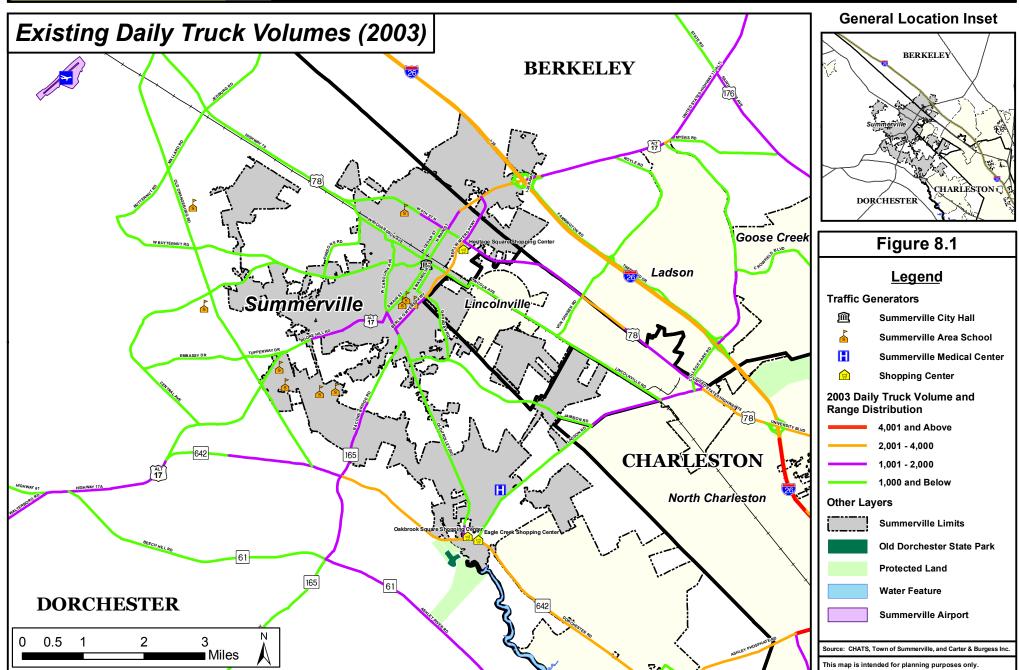
More important to the overall functionality of the roadway network is the percentage of truck traffic as compared to the overall travel. This is important because it helps recognize where volumes may be leading to operational problems along certain roadways.

The overall percentage of truck traffic for the 2003 base year is shown in **Figure 8.2**. As reflected, the roadways within the Town with the highest percentage of truck traffic are Fifth Street North (US 78) and Dorchester Road (SC 642). This is particularly significant because both of these roadways are primarily two-lane roadway segments. In addition to these roadways, most of the major roadways throughout the Town are also two lane segments that have truck traffic percentages ranging from five to ten percent. Given their geometrics, the presence of trucks creates operational conflicts that lead to increased congestion and/or unsafe conditions due to lack of turning radii at intersections and/or access points along these roadways. Based on field survey observations, this is particularly true for the following roadway segments:

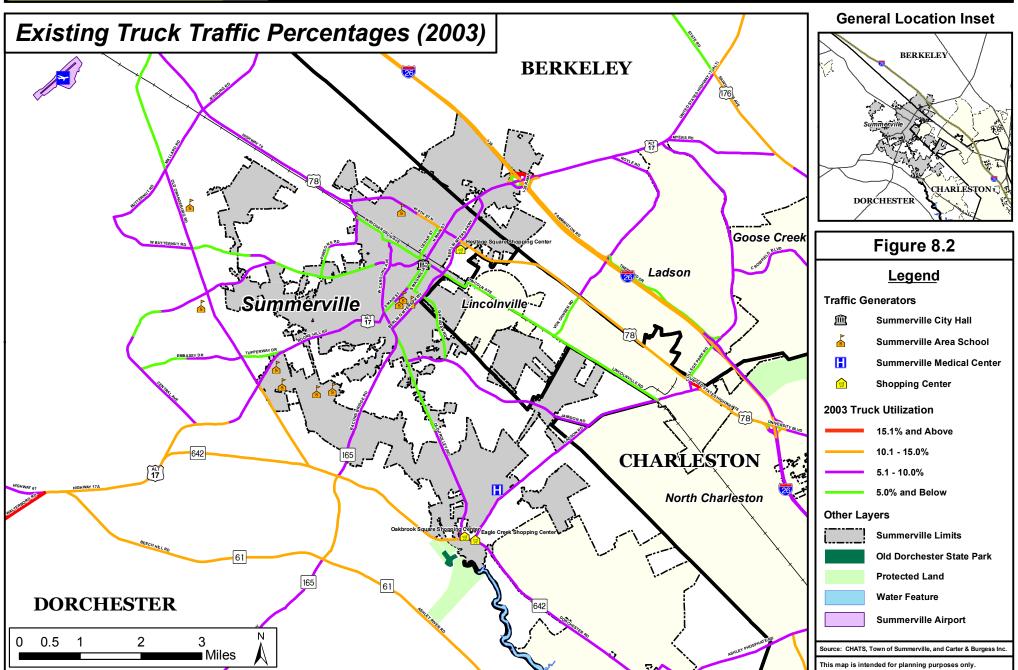
- US 17A (Main Street/Boone Hill Road) from Fifth Street North (US 78) to Old Orangeburg Road
- West Carolina Avenue from Richardson Avenue to Main Street (US 17A)
- Central Avenue / Cedar Street from Old Orangeburg Road to Ninth Street North

In addition, with the exception of Fifth Street North (US78), all of the cross streets from Richardson Avenue to Ninth Street North between Cedar Street and Gum Street have geometric limitations to truck travel as well. In conjunction, it should be noted that most of these roadway segments are in the downtown area of the Town.











8.2 Projected Conditions

Projected 2030 truck traffic characteristics were derived by applying the projected truck traffic within the 2030 CHATS Summerville CTP Model, which was derived for the development of this Plan. As previously noted, the 2030 CHATS Summerville CTP Model takes into account the completion of the planned improvements included in **Table 4.1**, which include, among others capacity improvements to:

- Berlin Myers Parkway
- Dorchester Road (SC 642)
- Bacons Bridge Road (SC 165)
- Old Orangeburg Road
- Fifth Street North (US 78)

The projected truck traffic resulting from this methodology is shown in **Figure 8.3**. As shown, the same roadway segments currently characterized with the highest truck traffic are projected to continue to carry the highest volume of trucks in 2030. However, there are some noticeable trends when comparing the differences between 2003 and 2030, such as:

- Truck traffic is projected to increase along Berlin Myers Parkway, Main Street (US 17A) between Berlin Myers Parkway and I-26, Old Orangeburg Road between Butternut Road and Dorchester Road (SC 642), and Fifth Street North (US 78).
- Truck traffic along Dorchester Road is not projected to increase significantly.
- With the extension of the Berlin Myers Parkway, the number of truck trips along Boone Hill Road (US 17A) between Carolina Avenue and Old Orangeburg Road is projected to decrease.

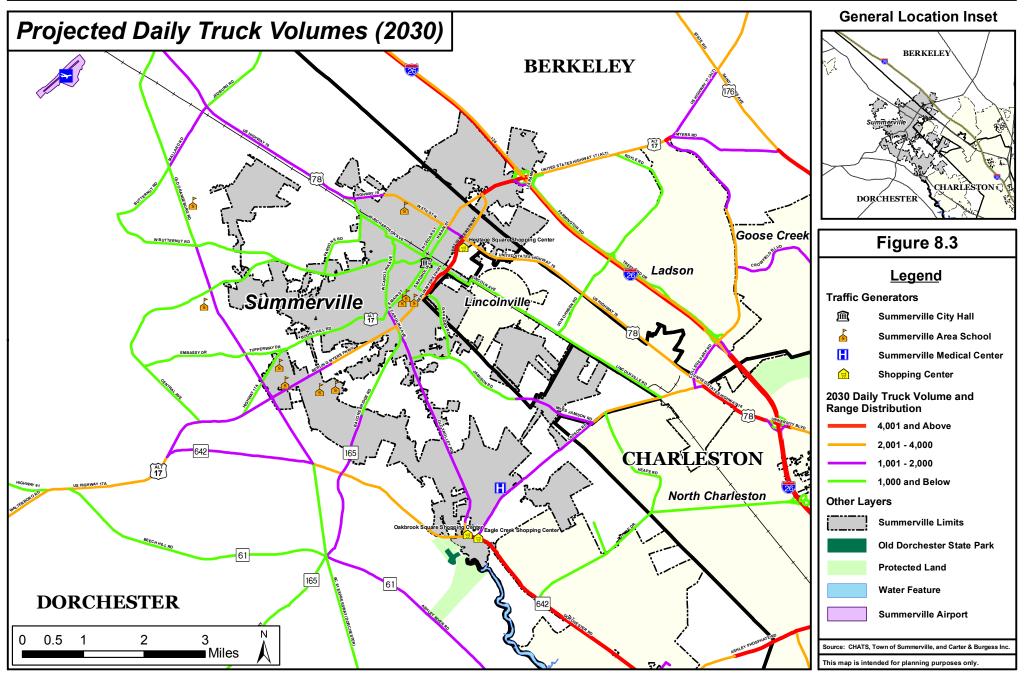
The projected 2030 truck traffic share for the Town roadway network is presented in **Figure 8.4**. As shown, there are two roadway segments that are projected to have truck traffic that exceeds 10 percent of their daily traffic share, which are:

- Berlin Myers Parkway between 3rd Avenue South and Fifth Street North (US 78); and
- Fifth Street North (US 78) from Berlin Myers Parkway to the Charleston County line.

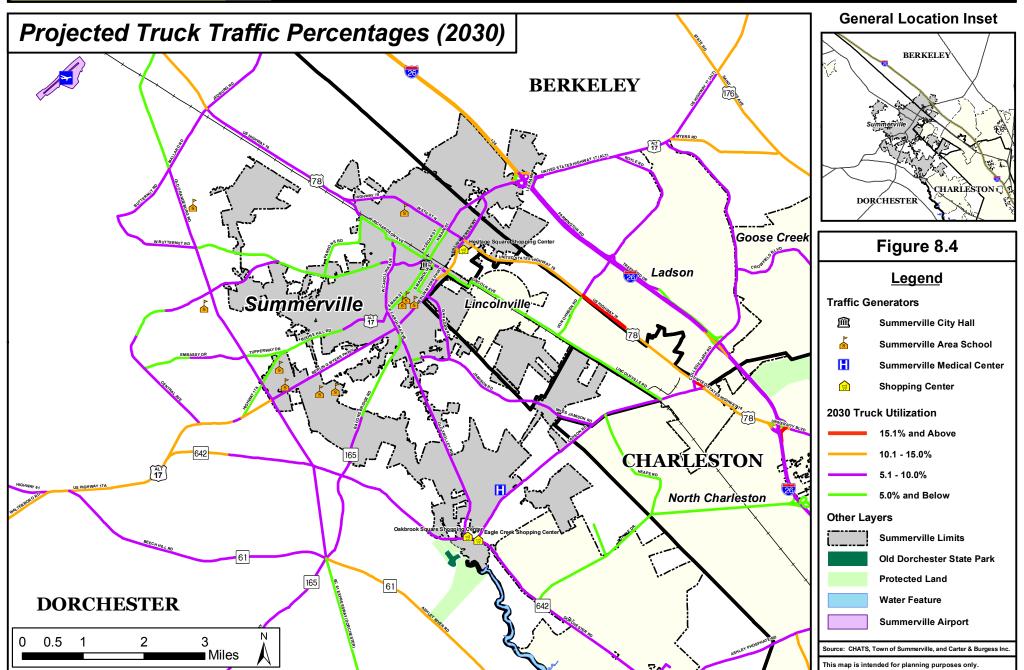
When comparing the truck utilization rates from 2003 and 2030, truck traffic share decreases along the following roadways:

- Boone Hill Road (US 17A)
- Old Trolley Road
- Gahagan Road











8.3 Future Needs and Corridor Recommendations

Based on the projected demand for truck travel discussed in this chapter, the Town has the following needs in managing its truck traffic.

- A primary trucking corridor from I-26 to the southwest portion;
- A primary northwest-southeast trucking corridor to access destinations in the Town as well as service through trips;
- A means to reroute and/or restrict trucks from roadways with difficult geometrics for truck operations and/or that run through residential areas;
- A means to reroute trucks to and from I-26 not destined for Summerville to and from the areas southwest of the City; and
- A means to access the commercial areas of the Town along Central Avenue in a safe, efficient manner.

Based on these needs and future roadway geometrics, the corridors have been recommended as truck traffic corridors and truck restricted corridors for the Town are shown in **Table 8.1** along with the rationale behind the recommendation. A map of these corridors is provided in **Figure 8.5**.

Table 8.1 – Recommended Truck and Truck Restricted Corridors

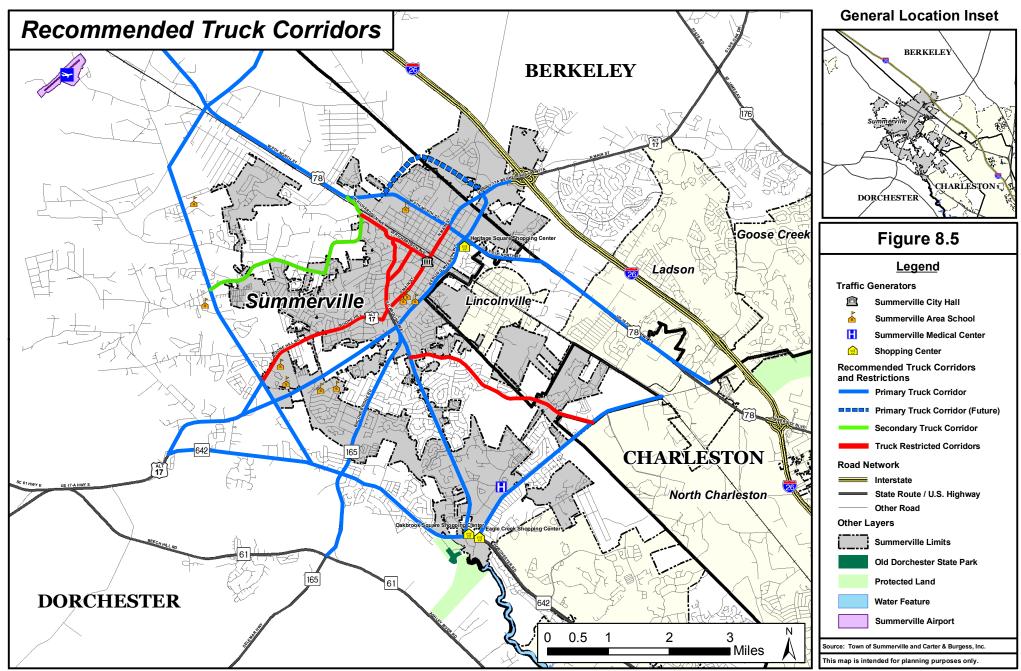
Primary Truck Corridors				
Roadway	Rationale			
Berlin Myers Parkway	 Projected truck travel demand Lack of surrounding residential development Favorable roadway capacity and access control Connectivity within arterial network Access to commercial and/or industrial uses 			
Fifth Street North (US 78)	 Projected truck travel demand Lack of surrounding residential development Connectivity within arterial network Access to commercial and/or industrial uses 			
Main Street (US 17A) from Fifth Street North to I-26	 Projected truck travel demand Lack of surrounding residential development Access to commercial and/or industrial uses Favorable roadway capacity Connectivity within arterial network 			
Old Orangeburg Road	 Favorable roadway capacity Potential to serve as bypass for trucks not destined for Summerville 			



Table 8.1 – Recommended Truck and Truck Restricted Corridors (continued)

Primary Truck Corridors (continued)				
Roadway	Rationale			
Dorchester Road (SC 642)	- Projected truck travel demand			
	 Access to commercial and/or industrial uses 			
	- Favorable roadway capacity			
	- Connectivity within arterial network			
Bacons Bridge Road (SC	- Favorable roadway capacity			
165)	 Connectivity within arterial network 			
	 Access to commercial and/or industrial uses 			
Old Trolley Road	- Favorable roadway capacity			
	- Connectivity within arterial network			
	 Access to commercial and/or industrial uses 			
Ladson Road	- Favorable roadway capacity			
	 Connectivity within arterial network 			
	 Access to commercial and/or industrial uses 			
Maple Street Extension	- Favorable planned roadway capacity			
from Berlin Myers Parkway	 Connectivity within arterial network 			
to Fifth Street North (Future)	 Access to commercial and/or industrial uses 			
Secondary Truck Corridors Central Avenue from Old Orangeburg Road to Parsons Road	Access to commercial and/or industrial usesConnectivity within arterial network			
Parsons Road	- Access to commercial and/or industrial uses			
	- Lack of surrounding residential development			
	- Connectivity within arterial network			
Truck Restricted Corridors Boone Hill Road / Main	Non-favorable roadway geometrics for truck travel			
Street (US 17A) from Old	More favorable parallel facility (Berlin Myers Parkway)			
Orangeburg Road to Fifth	- Surrounding residential areas			
Street North (US 78)	Carroanang roomannan aroad			
Richardson Avenue	- Surrounding residential areas			
	- More favorable parallel facility (Fifth Street North)			
W. Carolina Avenue / Laurel	- Non-favorable roadway geometrics for truck travel			
Street	- Surrounding residential areas			
Miles Jamison Road	- Surrounding residential areas			





Town of Summerville, South Carolina



As reflected in **Table 8.1**, the rationale for the primary truck corridors are favorable roadway capacity and geometrics to truck travel, access to industrial and/or commercial uses, and overall connectivity within the Town's arterial roadway network. With the exception of the portion of Fifth Street North (US 78) south of Berlin Myers Parkway (SC 165), all of the roadways recommended as a primary truck corridor were either currently or are planned to have four or more through lanes of capacity. As part of the recommended truck corridors, the widening of Fifth Street North (US 78) to a five lane facility throughout the Town is a recommended capacity improvement of this Plan. Lastly, the planned Maple Street extension is being recommended as a four-lane divided facility to essentially serve as an extension of the Berlin Myers Parkway to provide direct access to the northwestern portion of the Town from the commercial uses along Main Street (US 17A). This link would also relieve truck traffic demand at the congested intersection of Fifth Street North (US 78) and Main Street (US 17A).

While not recommended as a primary truck corridor, the need for truck access along Central Avenue to commercial and light industrial land uses in and around Knightsville is and will continue to be needed through the year 2030. In order to accommodate this need, Parsons Road is the recommended roadway to access these uses along Central Avenue to and from US 78. As such, operational improvements will need to take place along Parsons Road and Central Avenue adequate geometrics for safe and efficient truck travel.

Truck restrictions are also recommended along Main Street (US 17A), Richardson Avenue, Carolina Avenue and Laurel Street due primarily to their proximity and access to residential areas within the historic portion of the Town. Because there are commercial uses that rely on truck traffic along Richardson Avenue and Main Street (US 17A), the type of restriction would be limited to through truck travel with no destinations along the roadways. These restrictions are also viable because Fifth Street North (US 78) and Berlin Myers Parkway are parallel roadways that are more favorable to truck traffic operations. The truck restrictions along Carolina Avenue and Laurel Street are contingent upon the one-way pair concept being proposed as a traffic calming measure (See **Section 10.1**). Because there are no land uses that would require regular truck traffic, a through truck restriction along these roadways would essentially be a truck prohibition. In addition, through truck restrictions are also recommended along Miles Jamison Road to preserve the roadway as a neighborhood access road and deter truck travel between Ladson Road and the commercial area near the intersection of Old Trolley Road. However, there are some commercial and institutional uses (Coastal Center) that will continue to rely on truck traffic in order to operate.

It should be noted that truck restrictions along Central Avenue from Cedar Street to Parsons Road were not recommended due to the connectivity of this facility between downtown and Knightsville. However, it is foreseen that the traffic calming measures recommended in the area will limit truck traffic along this segment to that specifically accessing Knightsville and commercial uses along Central Avenue from the downtown area and vice-versa.



9.0 Parking Analysis

9.1 Existing Conditions

In general, most of the areas within the Town have adequate parking to accommodate the land uses they serve. The only possible exception is the downtown area.

A field survey of the downtown parking and space usage was conducted in March 2007 to survey the level of usage on a typical midday, when parking demand in the downtown area is at its highest. Most of the parking in the downtown area is on street parking along the following roadways:

- Main Street (US 17A)
- Richardson Avenue
- Cedar Street
- Doty Avenue
- Luke Street
- Second Street South
- Third Street South

The survey found that the typical midday occupancy of the on street parking facilities ranges from roughly 60 to 80 percent. However, occupancy rates are much higher for the facilities off of Main Street (US 17A) and Richardson Avenue. Most of the parking in these areas is limited to two hour length of stay. With the additional 223 parking spaces to be provided with the construction of the Town's parking garage, there should be adequate parking to service the downtown area through the year 2030.

9.2 Parking Recommendations

With this said, there are some means of improving parking conditions within the downtown area, which include:

- Increase signage of available parking within the downtown to direct visitors to the parking deck (when constructed) and underutilized on-street parking along Cedar Street, Doty Avenue, and Luke Street;
- Based on length of stay, investigate change in time limits for parking spaces along Richardson Avenue and Main Street (US 17A) based on the types of services being served;
- Implement mandatory employee parking at designated lots or the future parking deck; and
- Special event shuttle service to and from the Heritage Shopping Center, which currently has an abundance of available parking.



10.0 Traffic Calming Needs

The Town of Summerville recognizes the potential for traffic calming to ensure the safety of its neighborhoods and maintain the integrity of its local streets. The 1998 Comprehensive Transportation Plan (1998 CTP) identified three roadways as potential locations for traffic calming improvements: Carolina Avenue between Main Street (US 17A) and Richardson Avenue; Central Avenue from Carolina Avenue to Downtown; and Pine Grove Street. The types of potential improvements included all way stops, raised intersections, special pavers and small median islands along these roadways. Based on field observations and their traffic characteristics, the following represents the traffic calming recommendations for these three roadway segments.

10.1 Carolina Avenue

Based on 1998 CTP recommendations an all way stop was installed at Marion Street and Carolina Avenue. In addition, the Town requested a study to examine potential traffic calming solutions for Carolina Avenue between Richardson Avenue and Main Street (US 17A). The study considered the following alternatives:

- Speed humps along the roadway;
- Intersection diverters to prevent through traffic by forcing a right turn at various intersections along the roadway;
- A short one-way pair concept where traffic circulation would be changed to one-way northbound on Second Street and Palmetto Street and one way southbound on Carolina Avenue from Second Street North to Richardson Avenue:
- A long one-way concept where traffic circulation would be changed to one-way northbound along Laurel Street and one-way southbound along Carolina Avenue from Laurel Street to Richardson Avenue.

In addition to the concepts listed above, another concept was considered for the roadway that included converting West Carolina Avenue to a one-directional roadway from Richardson Avenue to Main Street (US 17A).

Based on the bidirectional travel demand along Carolina Avenue between Central Avenue and Main Street (US 17A), the following traffic calming measures are recommended for Carolina Avenue:

- Implementing the long one-way pair concept where traffic circulation would be changed to one-way northbound single travel lane on Laurel Street and one-way southbound single travel lane on Carolina Avenue from Laurel Street to Richardson Avenue:
- Narrowing of travel lanes from Laurel Street to Main Street (US 17A) and converting the additional right-of-way for bicycle and/or pedestrian facilities;
- New traffic signal at Laurel Street and Central Avenue coordinated with signal at Carolina Avenue and Central Avenue with the additional right-of-way being used for bicycle and/or pedestrian facilities;
- Improvements and signage along Parsons Road to accommodate truck travel from US 78 to Knightsville; and

Town of Summerville, South Carolina



• Through truck prohibition along Carolina Avenue and Laurel Street between Richardson Avenue and Main Street (US 17A).

10.2 Central Avenue

Given travel demand and the connectivity of Central Avenue/Cedar Street between Knightsville and downtown, there are no additional traffic calming measures recommended for the segment of Central Avenue between Carolina Avenue and downtown. However, the additional signal at Laurel Street as part of the one-way pair concept along Carolina Avenue will serve to calm traffic on the segment of Central Avenue from downtown to Carolina Avenue.

10.3 Pine Grove Street

Pine Grove Street is a neighborhood roadway that is currently burdened with a significant amount of through traffic accessing East Carolina Avenue to points east and south via Berlin Myers Parkway, Old Trolley Road, Bacons Bridge Road and beyond. In order to curb this trend, the following improvements are recommended to calm traffic along Pine Grove Street:

- Through traffic prohibition along Pine Grove Street; and
- Improved right turn lane and signalization at Carolina Avenue and Main Street (US 17A) to accommodate traffic being redirected into this intersection by the aforementioned through trip restriction.

10.4 School Areas

Input from the public has indicated a need for the consideration of traffic calming measures in the vicinity of area schools. In particular, the schools near the intersection of Luden Road and King Charles Circle, specifically, Flowerton and Newington Elementary Schools, require implementation of traffic calming as a result of increasing traffic due to area growth.



11.0 Summary of Recommended Projects

11.1 Roadway Improvements

As demonstrated in the comparison of the two CHATS models detailed in Section 4 herein, the improvements planned for the Summerville area will greatly improve travel conditions within the Town. However, in total these improvements will not satisfy all of the mobility needs of the Town given the amount of growth projected for the area. Given the levels of congestion projected under the 2030 Build Model, additional improvements will needed to the following roadway segments:

- Main Street (US 17A) from Ninth Street North to I-26
- Berlin Myers Parkway (SC 165) from Carolina Avenue to Main Street (US 17A)
- US 78 from Berlin Myers Parkway to Charleston County
- Miles Jamison Road from Gahagan Road to Ladson Road
- Central Avenue from Old Orangeburg Road to Carolina Avenue
- Carolina Avenue from Berlin Myers Parkway to Bacons Bridge Road (SC 165)

The greatest number of trips on the Town's roadway network are those in the northeast and southwest direction between points south and west of the Town to I-26. Pursuant to forecasts from the travel demand models, the demand for these trips is expected to increase through the year 2030. Therefore, the widening of Bacons Bridge Road and extension of Berlin Myers Parkway will be critical in serving this demand.

To meet the Town's existing and projected needs, a set of roadway capacity and operational improvements has been developed and provided on **Figure 11.1**. These improvements have been assigned identification numbers which are discussed in further detail in the following sections.

11.1.1 Roadway Capacity Improvements / New Roadways

Based on the analysis within this Plan, **Table 11.1** contains the recommended roadway capacity and new roadway projects along with a description and rationale for each improvement. A more detailed rationale for each improvement is provided below.

Plan ID#1 - Berlin Myers Extension

The extension of Berlin Myers Parkway to Boone Hill Road (US 17A) from Carolina Avenue will provide a great benefit to the Town by relieving congestion on Boone Hill Road and Carolina Avenue. The new roadway, which is projected to carry 19,000 to 23,000 daily trips under the 2030 CHATS (Summerville CTP) Build model, will redirect through traffic off of Boone Hill Road (US 17A) and improve the LOS along the roadway from Old Orangeburg Road to Carolina Avenue. This improvement will also alleviate the need to access Boone Hill Road via Carolina Avenue. In turn, this will improve conditions at the 'five-points' intersection at Carolina Avenue, which had the highest number of accidents over the past three years. Construction of the Berlin Myers Parkway extension will also serve the increasing need for northeast and southwest through trips and shift these trips away from Main Street (US 17A) and downtown Summerville.



Town of Summerville Comprehensive Transportation Plan

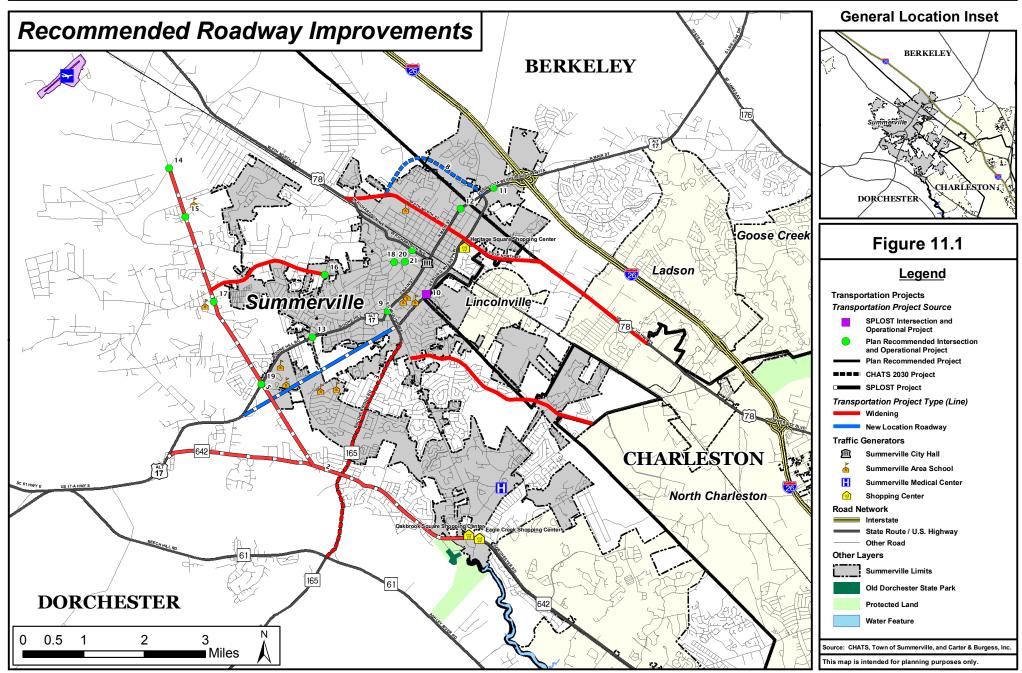




Table 11.1 – Recommended New Roadways and Roadway Capacity Improvements

Plan ID#	Improvement	Description	Key Rationale
1	Berlin Myers Parkway (SC 165) Extension	Construction of four-lane limited access facility from SC 165 to US 17-A; Include connection to Summerville High School via Green Wave Connector	- Congestion Relief - Truck Traffic Management - Safety - School Access
2	Dorchester Road (SC 642)	Widening the current two-lane section to four lanes with left and right turn lanes from Oakbrook just west of Old Trolley Road to US Route 17-A.	Congestion ReliefTruck Traffic ManagementSafety
3	Bacons Bridge Road (SC 165)	Widening roadway from 2 lanes to 4 lanes with center turning lanes from end of 4-lane sections to SC 61. Includes intersection alignment at Mikel Drive and Edisto Drive.	Congestion ReliefTruck Traffic ManagementSafetySchool Access
4	Fifth Street North (US 78)	Widening current two-lane facility to a four-lane divided facility suitable for higher truck traffic volumes from Richardson Avenue to Charleston County	Truck Traffic ManagementCongestion ReliefSafetySchool Access
5	Old Orangeburg Road	Widening the current two-lane section to four lanes with continuous center turn lanes from Mallard Road to Dorchester Road (SC 642)	Truck Traffic Management Congestion Relief School Access
6	Central Avenue	Widen to include continuous center turn lane from Old Orangeburg Road to Parsons Road	Truck Traffic Management Congestion Relief Safety
7	Miles Jamison Road	Widen to include continuous center turn lane from east of Old Trolley Road to Ladson Road	- Congestion Relief - Safety
8	Maple Street Extension	New four lane divided roadway Maple Street to Berlin Myers Parkway	- Congestion Relief - Truck Traffic Management - Safety



Plan ID#2 - Dorchester Road (SC 642) Widening

The widening of Dorchester Road (SC 642) will add capacity to a roadway that currently operates at a congestion level of LOS F. As previously noted, even with the widening, the roadway would continue to function at LOS F between Old Orangeburg Road and Old Trolley Road. East of Old Trolley Road, the planned widening of Dorchester Road would improve the conditions from LOS F to LOS E from Old Trolley Road to Parler Drive and from LOS F to LOS D from Parler Drive to Charleston County. Given these levels of congestion, the current State Infrastructure Bank (SIB) application submitted by Dorchester County to widen the facility to six lanes with an overpass at Bacons Bridge Road would also be justified since the segment between Bacons Bridge Road and Old Trolley Road is still projected to operate at LOS F with the widening to four lanes.

Plan ID#3 - Bacons Bridge Road (SC 165) Widening

In conjunction with the Berlin Myers Extension, the widening of Bacons Bridge Road (SC 165) will serve to greatly reduce congestion along the roadway. With the recommended improvement, LOS along the roadway would improve from LOS F to LOS E from Stallsville Road to Live Oak Road and from LOS F to LOS C or better from Woodland Drive to Dorchester Road (SC 642). The widened facility would also provide a viable truck route from Berlin Myers Parkway to the commercial areas along Dorchester Road and points further south. Lastly, the improvements will also improve access to the Flowertown and Newington Elementary Schools via Edisto Drive.

Plan ID#4 - Fifth Street North (US 78) Widening

Planned improvements from Berlin Myers Parkway to St. George will reduce congestion along the roadway north of Berlin Myers Parkway. The roadway would improve from LOS F to LOS D between Palmetto Street and Richardson Avenue and LOS E between Palmetto Street and Main Street (US 17A). The roadway is also projected to improve from LOS F to LOS D between Main Street (US 17A) and Owens Drive. However, much of the roadway south of Berlin Myers Parkway would operate at LOS F. Furthermore, in order to for the facility to serve as a major corridor for through truck traffic, the facility would need to be widened to a four-lane divided facility with special design considerations given to the intersections with Main Street (US 17A) and Berlin Myers Parkway (SC 165). The additional capacity would also serve to further reduce congestion and provide better vehicular access to Alston Middle School.

Plan ID#5 - Old Orangeburg Road Widening

The widening of Old Orangeburg Road to a four-lane divided facility provides an alternative truck route from I-26 to access points south and west of the Town. With the development pressures along the roadway in conjunction with the SC 61 Expressway planned to terminate at the intersection of Old Orangeburg Road and Dorchester Road (SC 642), the widening also serves as a congestion relief measure. Lastly, the widening will also assist in alleviating school related congestion to the school areas along the roadway, including Summerville High School, Gregg Middle School, Knightsville Elementary School, Pinewood Preparatory School, DuBose Middle School and the future Reeves Elementary School.

Plan ID#6 - Central Avenue

The currently planned widening of Central Avenue segment from Main Street (US 17A) to Carolina Avenue would improve from LOS F to LOS E and the segment from Postern Road to Butternut Road would improve from LOS D and E to LOS C or better. As a secondary truck route to serve the commercial and light industrial uses in conjunction with the numerous



residential subdivisions along the roadway, the widening of Central Avenue to a two-lane roadway with a continuous center turn lane would greatly reduce delays associated with turn movements to access adjacent development. This reduction, in turn, would improve access to Knightsville Elementary School and Pinewood Preparatory School. This improvement would also include intersection improvements at Butternut Road.

Plan ID#7 - Miles Jamison Road

With the planned improvements in and around the Town, the segment of Miles Jamison between Gahagan Road and Ladson Road is projected to operate at LOS E and F in 2030. Therefore, the addition of a continuous center turn lane to Miles Jamison Road is being recommended to alleviate this congestion by reducing delay associated with accessing neighborhoods along the roadway. This widening will be particularly needed with the completion of the planned Palmetto Commerce Parkway, which is schedule to terminate at Ladson Road near its intersection with Miles Jamison Road.

Plan ID#8 - Maple Street Extension

This planned improvement would serve to relieve congestion at the intersections along Main Street (US 17A) between Berlin Myers Parkway and Fifth Street North by providing an alternative access between I-26 and the northern portions of Summerville. This new roadway would also provide an alternative truck route for trucks between I-26 and the industrial areas located off of US 78.

11.1.2 Intersection/Operational Improvements

In addition to the roadway capacity improvements provided in Table 11.1, there are several intersection and operational improvements recommended throughout the Town that provide lower cost options to improving the network than capacity improvements. These improvements are mapped in **Figure 11.1**. A description of each of the recommended improvements along with a rationale for each is provided in **Table 11.2**.

Table 11.2 – Recommended Roadway Intersection and Operational Improvements

Plan ID#	Improvement	Description	Key Rationale
9	Main Street (US 17A) and Carolina Avenue	Minor realignment of US 17A approach, with exclusive right turn lane onto Carolina Avenue; prohibit through traffic on Pine Grove Street; close access to intersection via Tupper Lane.	- Safety - Traffic Calming - Congestion Relief
10	Berlin Myers Parkway and Gahagan Road	Intersection improvements to include dedicated left turn and right turn lanes on northbound Gahagan Road and dedicated right turn lane on Berlin Myers onto Gahagan Road	Congestion ReliefTruck Traffic ManagementSafetySchool Access



Table 11.2 – Recommended Roadway Intersection and Operational Improvements (continued)

Plan ID#	Improvement	Description	Key Rationale
11	Main Street North (US 17A) and Azalea Square Boulevard	Reconfigure intersection for double left turn lanes on eastbound Main Street (US 17A) into Azalea Square Boulevard	- Congestion Relief
12	Main Street (US 17A) and Ninth Street North	Add exclusive left turn lanes on Ninth Street North approaches; signal upgrades to include protected left turns from Ninth Street North	- Congestion Relief - Safety
13	Boone Hill Road (US 17A) and Luden Road	Lengthen left turn lane onto Luden Road from westbound Boone Hill Road (US 17A); add right turn lane onto Luden Road from eastbound Boone Hill Road; add left turn lane from Luden Road to westbound Boone Hill Road; signal upgrade	- Congestion Relief - School Access
14	Old Orangeburg Road and Butternut Road	Add signal; add exclusive right turn lane onto Butternut Road from northbound Old Orangeburg Road; add exclusive right turn lane from Butternut Road onto northbound Old Orangeburg Road (As part of proposed widening project)	- Congestion Relief - School Access
15	Old Orangeburg Road and Hummingbird Lane	Add right turn lanes onto Hummingbird Lane and Dubose School Road from southbound Old Orangeburg Road; add exclusive left turn lane onto Dubose School Road; Add signal active only during school loading periods (As part of proposed widening project)	- School Access - Safety
16	Central Avenue and Parsons Road	Add left turn lane onto Parsons Road from eastbound Central Avenue; add southbound right turn lane onto Central Avenue	- Truck Traffic Management - Traffic Calming



Table 11.2 – Recommended Roadway Intersection and Operational Improvements (continued)

Plan ID#	Improvement	Description	Key Rationale
17	Old Orangeburg Road and Devon Road	Add right turn lane onto Devon Road from southbound Old Orangeburg Road; add left turn lane onto Devon Road from northbound Old Orangeburg Road (As part of proposed widening project)	- School Access
18	Central Avenue and Carolina Avenue	Reconfigure interchange and signalization for one-way Carolina Avenue	- Traffic Calming
19	Boone Hill Road east of Old Orangeburg Road	Right turn lanes into Summerville High School facility	- School Access - Congestion Relief
20	Laurel Street and Central Avenue	Add signal coordinated with signalization at Carolina Avenue for northbound traffic along Laurel Street; add right turn lane onto Central Avenue from northbound Laurel Avenue; add left turn lane from Central Avenue onto Laurel Street	- Traffic Calming
21	Laurel Street and Richardson Avenue	Add northbound left turn lane from Laurel Street onto Richardson Avenue; add signal	- Traffic Calming

Plan ID#9 - Main Street (US 17A) and Carolina Avenue

As one of the more congested intersections and the location with the highest number of crashes within the Town, the recommended improvements serve to enhance safety and relieve congestion. The additional right turn lane will also serve to compliment traffic calming measures along Pine Grove Street.

Plan ID#10 - Berlin Myers Parkway and Gahagan Road

This improvement will serve to relieve congestion along Gahagan Road and Sixth Street South as well as improve access to the nearby schools. This location also had the highest rate of injury accidents, which would indicate crashes occurring at higher speeds.

Plan ID#11 - Main Street North (US 17A) and Azalea Square Boulevard

Travel demand for left turn movements into the Azalea Square Shopping Center frequently queue into the through travel lanes along eastbound Main Street (US 17A), which adds travel delay to one of the Town's more congested roadway segments.

Town of Summerville, South Carolina



Plan ID#12 - Main Street (US 17A) and Ninth Street North

The provision of protected left turns at this intersection from Ninth Street will reduce the substantial queue at the intersection that occurs during the midday hours. Given the traffic volumes at the intersection, it is also characterized by a high rate of crashes.

Plan ID#13 - Boone Hill Road (US 17A) and Luden Road

With the extension of the Berlin Myers Parkway and access to Luden Road, this intersection needs to be reconfigured to accommodate higher traffic volumes as well as improve access to nearby school areas. Enhanced signalization needs to include optimal pedestrian accommodations for students accessing nearby schools – particularly Summerville High School. This intersection was also a high accident location from 2004 to 2006.

Plan ID#14 - Old Orangeburg Road and Butternut Road

The widening of Old Orangeburg Road will likely result in operational conflicts that warrant a signal at this location due to an increase in overall volumes and truck traffic, particularly for left turn movements from southbound Old Orangeburg Road and westbound Butternut Road given the level of planned development north of this intersection along Hummingbird Lane. This improvement will also reduce the potential for conflicts related to accessing the nearby Pinewood Preparatory School, DuBose Middle School, and the future Reeves Elementary School.

Plan ID#15 - Old Orangeburg Road and Hummingbird Lane

With the widening of Old Orangeburg Road and the construction of Reeves Elementary, this improvement will serve to improve access to the nearby schools. Initially, this signal can be timed to flash during non-school hours and transition to full-time operation once warranted resulting from the planned development along Hummingbird Lane. Said signal improvements should also include enhanced provisions for pedestrians.

Plan ID#16 - Central Avenue and Parsons Road

With enforced truck restrictions along Carolina Avenue and the establishment of Central Avenue and Parsons Road as secondary truck traffic corridors, this improvement is needed in order to create more favorable conditions for truck traffic operations.

Plan ID#17 - Old Orangeburg Road and Devon Road

Improvements are needed at this intersection to allow for turn movements accessing Knightsville Elementary School.

Plan ID#18 - Central Avenue and Carolina Avenue

This improvement is a component of the proposed one-way pair concept for Carolina Avenue and will require signal reconfiguration as well as enhanced signalization for proposed bicycle and/or pedestrian facilities.

Plan ID#19 - Boone Hill Road east of Old Orangeburg Road

An additional access lane is needed to improve ingress and egress to and from Summerville High School in order to reduce school related congestion.

Town of Summerville, South Carolina



Plan ID#20 - Laurel Street and Central Avenue

This improvement is also related to the proposed one-way pair concept for Carolina Avenue and will require signal reconfiguration as well as enhanced signalization for proposed bicycle and/or pedestrian facilities.

Plan ID#21 - Laurel Street and Richardson Avenue

Also related to the proposed one-way pair traffic calming improvement for Carolina Avenue and Laurel Street, this improvement will serve to provide improve access to northbound traffic along Laurel Street to westbound Richardson Avenue.

11.2 Recommended Bicycle Improvements

As stated in Section 6.1, the primary focus of the recommended bicycle improvements is to:

- Enhanced connectivity to the Sawmill Branch facility; and
- Enhanced connectivity to the downtown area of the Town; and
- Enhanced connectivity to the school areas within the Town.

A map of the recommended bicycle improvements is presented in **Figure 11.2** and listed in **Table 11.3**. In developing the list of recommended projects, there are four primary types of improvements considered for the Town, which are:

- Incorporation of bicycle lanes as part of a planned roadway capacity project;
- Restriping a roadway where sufficient right-of-way exists or the acquisition of right-of-way is feasible;
- Increased signage along roadways where insufficient right-of-way exists or the acquisition of right-of-way is problematic for restriping or the addition of bicycle lanes;
- New bikeways to connect roadways subject to bicycle improvements to the Sawmill Branch facility.

Since many of the roadways recommended for bicycle improvements are also recommended for roadway and/or pedestrian improvements, it is not possible to determine the optimal type of improvement to which the roadways would be subject. As a result, specific costs are not provided for specific recommended bicycle improvements, however, generalized costs are provided in **Table 13.3**.

11.3 Recommended Pedestrian Improvements

As stated in Section 6.2 herein, the two primary focus areas for pedestrian needs are providing access to the school areas and providing connectivity to existing facilities. A list of some of the major recommended pedestrian improvements is provided in **Table 11.4** and shown in **Figure 11.3**. In addition, there are several other improvements, primarily in proximity to the Town's school areas, recommended as part of this plan. It should also be noted that several of these improvements are associated with planned and or programmed roadway projects.

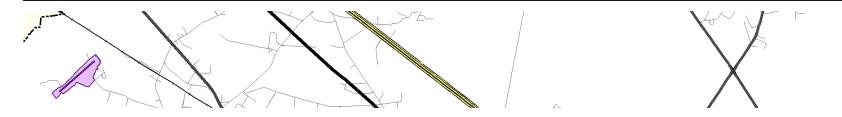




Table 11.3 – Recommended Bicycle Improvements

Plan ID#	Improvement	Improvement Limits	Description
B1	Old Orangeburg	Mallard Road to Dorchester	Add bike lane as part of
	Road	Road	planned widening project
B2	Bacons Bridge Road	Old Trolley Road to	Add bike lane as part of
		Dorchester Road	planned widening project
B3	Boone Hill Road /	Richardson Avenue to Old	Restriping and/or
	Main Street	Orangeburg Road	additional signage
B4	Carolina Avenue /	Richardson Avenue to Main	Restriping and/or
	Laurel Street One-	Street	reconstruction and
	Way Pair		additional signage
B5	Richardson Avenue	US 78 to Gum Street	Restriping and/or
			additional signage
B6	Central Avenue	Old Orangeburg Road to	Restriping and/or
		Cedar Street	additional signage
B7	Dorchester Road	Old Orangeburg Road to	Add bike lane as part of
		Dorchester State Park	planned widening project
B8	US 78	Jedburg Road to Richardson	Add bike lane as part of
		Avenue	planned widening project
B9	Luden Road	King Charles Circle to Boone	Restriping and/or
		Hill Road	additional signage
B10	Green Wave	Boone Hill Road and Old	Restriping and/or
	Boulevard	Orangeburg Road to Sawmill	additional signage, add
		Branch	trail connection
B11	Parsons Road	Richardson Avenue to	Restriping and/or
		Central Avenue	additional signage
B12	Miles Jamison Road	Old Trolley Road to Ladson	Restriping and/or
		Road	additional signage
B13	Lincoln Avenue/	Owens Road to Ladson	Restriping and/or
	Lincolnville Road	Road	additional signage
B14	Martin Lane/Rose	New connection to Sawmill	Restriping and/or
	Lane/Ashley Drive	Branch Trail from Old Trolley	additional signage, add
		Road bike lanes	trail connection
B15	New connection near	New connection to Sawmill	Restriping and/or
	Paradise Point	Branch Trail from Bacons	additional signage, add
		Bridge Road bike lanes	trail connection



Town of Summerville Comprehensive Transportation Plan

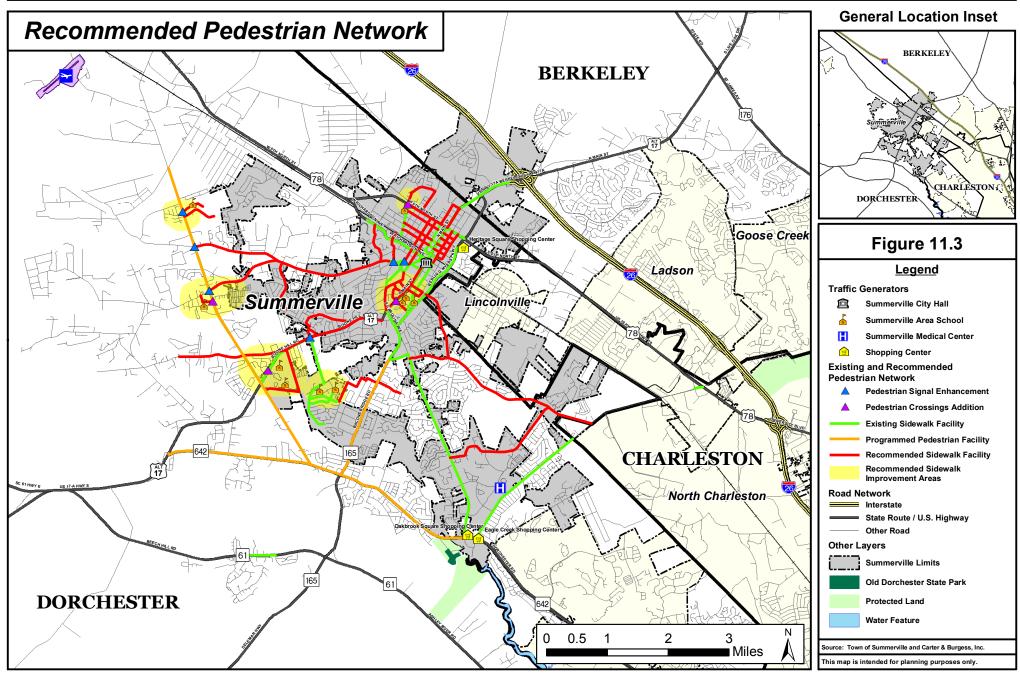




Table 11.4 – Major Recommended Pedestrian Improvements

Plan ID#	Improvement	Improvement Limits	Description
P1	Boone Hill Road / Main Street (US 17A)	Richardson Avenue to Old Orangeburg Road	Fill in sidewalk gaps on both sides of roadway with pedestrian crossings at Richland Street and Summerville High School, and enhanced pedestrian signalization at Luden Road
P2	Bacons Bridge Road	Old Trolley Road to Dorchester Road	New sidewalks on both sides of roadway as part of planned roadway improvement
P3	Carolina Avenue / Laurel Street One-Way Pair	Richardson Avenue to Main Street	New sidewalks along one side of roadways (depending on roadway design concept) with pedestrian signal enhancements at Central Avenue
P4	Central Avenue	Old Orangeburg Road to Cedar Street	New sidewalks on both sides of roadway with pedestrian signalization at Old Orangeburg Road
P5	Old Orangeburg Road	Mallard Road to Dorchester Road	Fill in sidewalk gaps on eastern side of roadway and add sidewalks on west side of roadway as part of planned roadway improvement; enhanced pedestrian signalization at Butternut Road and Central Avenue; pedestrian crossings at Knightsville Elementary and Hummingbird Lane
P6	Dorchester Road	Old Orangeburg Road to Dorchester State Park	New sidewalks on both sides of roadway as part of planned roadway improvement
P7	Fifth Street North	Maple Street to Berlin Myers Parkway	New sidewalks on both sides of roadway as part of widening project
P8	Butternut Road	Old Orangeburg Road to Central Avenue	New sidewalk on north side of roadway
P9	Tupperway Drive	Old Orangeburg Road to Boone Hill Road	New sidewalk on north side of roadway
P10	Miles Jamison Road	Old Trolley Road to Ladson Road	New sidewalks on both sides of roadway
P11	Gahagan Road	Sawmill Branch to Miles Jamison Road	New sidewalk on west side of roadway



12.0 Funding Analysis

12.1 Guide Share

The Guide Share is funding made available to each of the Metropolitan Planning Organizations (MPOs) and Council of Governments (COGs) through the allocation of Federal and State funds by the South Carolina Department of Transportation (SCDOT). The Guide Share is made up of two federal funding sources:

- National Highway System Funds (NHS) Federal funds that are appropriated by Congress for maintaining and improving the National Highway System including interstates.
- Surface Transportation Program (STP) A federal-aid program for any state-maintained roadway not classified as a local road or rural minor collector.

Historically, the Charleston Area Transportation Study (CHATS), of which Summerville is a part, has received \$13.993 million annually in Guide Share funds. Of these funds, approximately \$7 million have gone to debt service associated with SCDOT's "27 in 7" bonding program. Pursuant to the CHATS Long Range Transportation Plan (LRTP), SCDOT estimates approximately \$170 million of Guide Share funding will be available to fund transportation projects through the year 2030.

Of the recommended projects noted in Section 11, the following projects have been listed within the Fiscally-Constrained Financial Plan within the CHATS LRTP and have been recommended to receive Guide Share funding through the year 2030:

- Plan ID#1 Berlin Myers Parkway Extension
- Plan ID#2 Dorchester Road (SC 642) Widening
- Plan ID#3 Bacons Bridge Road (SC 165) Widening
- Plan ID#8 Maple Street Extension

It should be noted that the widening of US 78 from Jedburg Road to Berlin Myers Parkway has also been recommended to receive Guide Share funds, but this Plan recommends widening the segment from Richardson Avenue to the Charleston County line to a four-lane divided facility. Also, the Maple Street Extension is proposed as a two-lane roadway within the 2030 CHATS LRTP.

12.2 Enhancement Funds

Within the CHATS planning area, enhancement funds are primarily used for bicycle and pedestrian improvements. Enhancement funding for individual projects are procured through applying to the Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) and is awarded based on merit. According to the CHATS LRTP, approximately \$950,000 of Enhancement funds is allocated to the Charleston region annually. For planning purposes, it was assumed that this level of funding would continue through the year 2030. All of the bicycle and pedestrian improvements recommended within this plan would be eligible for Enhancement funds.



According to input from Town staff, **Table 12.1** represents the amount of Enhancement Grants received by the Town of Summerville and the amount of match given by the Town from 2003 through 2006. As shown, during this time frame the Town has received an average of approximately \$95,000 of Enhancement Grants and provided an average 20 percent match of approximately \$19,000 annually. For planning purposes, it was assumed that the Town would receive the same average annual amount of Enhancement Grants and dedicate the required 20 percent match through 2030.

Table 12.1 – Enhancement Grants for the Town of Summerville – 2003-2006

Year	Grant Amounts	Town Match
2003	\$ 129,670.00	\$ 25,934.00
2004	\$ 64,034.00	\$ 12,807.00
2005	\$ 89,613.00	\$ 17,923.00
2006	\$ 97,255.00	\$ 19,451.00
Total	\$ 380,572.00	\$ 76,115.00
Average	\$ 95,143.00	\$ 19,028.75

12.3C-Funds

C-Funds are allocated to each county by SCDOT for transportation improvements, 25% of which must be used to improve the state highway system. SCDOT administers the funds for Dorchester County, which have averaged roughly 1.2 million annually since 1997. Pursuant to SCDOT, Dorchester County is projected to receive \$1.342 million in FY 2006-2007. For planning purposes, it was assumed that Dorchester would receive \$1.3 million annually through 2030 based on recent allocations.

From 2004 through 2006, the Town of Summerville received an average of \$151,000 of C-Funds annually. While most of these funds have been utilized for resurfacing and other types of roadway maintenance, they can be also used for intersection and pedestrian improvements if so prioritized. For planning purposes, it was assumed that the Town of Summerville would receive an average of \$151,000 annually through the year 2030.

12.4 State Infrastructure Bank (SIB)

Through cooperation with the USDOT, the S.C. General Assembly created the State Infrastructure Bank (SIB) in 1997 to select and assist in financing major projects. Since its inception, the SIB has approved financing and began development of nearly \$3.0 billion in projects.

Funds from the SIB are made available through application to the SCDOT. Dorchester County has recently made application for a total of \$213.2 million, which represents approximately 59 percent of the entire program costs of \$363.4 million. Dorchester County is requesting the financial assistance to apply to the following projects, which collectively has estimated costs of \$284.9 million:



- Plan ID#1 Berlin Myers Parkway Extension
- Plan ID#2 Dorchester Road (SC 642) Widening
- Plan ID#3 Bacons Bridge Road (SC 165) Widening
- Plan ID#4 US 78 Widening (north of Berlin Myers Parkway)
- Plan ID#5 Old Orangeburg Road/Jedburg Road Widening

12.5 Other SCDOT Funds

Some federal funds are allocated to projects through specific programs such as bridge replacement, safety, road maintenance, and interstate. These funds are prioritized at the state level by SCDOT. These funds are difficult to track since they are allocated to specific projects over several years. Some of the improvements recommended in the Plan could be eligible for funding from the safety program, including the recommended intersection improvement at Main Street (US 17A) and Carolina Avenue.

12.6 Local Option Sales Tax Program

The Dorchester County Penny Sales Tax Transportation Authority (DCTA) implements a program which includes up to 22 road improvement projects over the next 5-7 years. Total cost of the program are estimated at \$363.4 million funded by a maximum of \$125 million from the sales tax and the remainder provided by SCDOT, the Federal Highway Administration (FHWA), and other sources. This program has the potential to be extended beyond its current horizon year through 2020 via voter approval. Projects currently programmed for funding under by the One-Cent Sales Tax program include:

- Plan ID#1 Berlin Myers Parkway Extension
- Plan ID#2 Dorchester Road (SC 642) Widening
- Plan ID#3 Bacons Bridge Road (SC 165) Widening
- Plan ID#4 US 78 Widening (north of Berlin Myers Parkway)
- Plan ID#5 Old Orangeburg Road/Jedburg Road Widening
- Plan ID#10 Berlin Myers Parkway and Gahagan Road Intersection Improvement

12.7Local Resources

Transportation expenditures from the Town of Summerville's municipal budget are limited to roadway and sidewalk maintenance and the matching of funds required to receive Enhancement funds for bicycle and pedestrian projects.

12.8 Summary of Potential Funding Sources

A summary of the potential funding sources eligible to fund transportation improvements within the Town of Summerville is provided in **Table 12.1**.



Table 12.2 – Summary of Potential Funding Sources through 2030

Funding Source	Amount
Guide Share (from CHATS LRTP)	\$170,000,000 ¹
Enhancement Funds (\$95,000 annually x 23 years)	\$2,185,000 ²
C-Funds (\$151,000 annually x 23 years)	\$3,473,000 ²
State Infrastructure Bank	\$213,200,000 ³
Local Option Sales Tax	\$125,000,000 ⁴
Local Option Sales Tax Extension (2013-2020)	\$125,000,000 ⁵
Town of Summerville (Enhancement Grant Match)	\$437,000 ²

Notes:

- 1 Funds allocated throughout the entire CHATS region, funds allocated for specific projects
- 2 Based on average allocations carried out to the year 2030
- 3 Funds based on pending SIB application, dedicated to specific projects
- 4 Funds dedicated to a specific list of projects
- 5 Assuming same dollar amount if tax is extended beyond 2012, funds would be allocated to specific projects.

In addition to the sources listed above, funding from SCDOT discretionary sources such as the safety program may also be available for certain projects recommended in this Plan. A list of the recommended projects along with their projected costs and potential funding sources is provided in **Table 13.2** in the next section.



13.0 Project Cost Estimates and Potential Funding Sources

13.1 Roadway Improvements

Various sources were utilized in order to derive cost estimates for the projects recommended within this Plan, which include:

- 2030 CHATS LRTP
- One-Cent Sales Tax Program

For projects not estimated within the LRTP or One-Cent Sales Tax Program, a generalized set of unit costs was developed based on previous planning efforts. A list of the generalized costs developed utilized to develop preliminary estimates for recommended improvements is provided below in **Table 13.1**.

Table 13.1 – Recommended Roadway Improvements Unit Costs

Improvement Type	Unit Cost
Roadway Capacity or New Roadways	
Surface Street Widening	\$2.640 million per lane per mile
New Surface Streets	\$2.710 million per lane per mile
Intersection / Operational Improvements	
Add Turn Lanes on existing ROW	\$2.640 million per lane per mile
Add Turn Lanes on additional ROW	\$2.710 million per lane per mile
Add or Upgrade Traffic Signal	\$160,000 per intersection
Restriping	\$24,000 per mile
Right-of-Way	
Residential	\$500,000 per acre
Commercial	\$750,000 per acre



Table 13.2 - Estimated Project Costs and Potential Funding Sources for Roadway Improvements

Plan ID#	Improvement	Description	Estimated Project Costs	Potential Funding Sources	Funding Status
-	Berlin Myers Parkway (SC 165) Extension	Construction of four-lane limited access facility from SC 165 to US 17-A; Include connection to Summerville High School via Green Wave Connector	\$56.9 million ¹	- One-Cent Sales Tax - Guide Share - SIB	Guide Share and One-Cent Sales Tax funding programmed; SIB application submitted
2	Dorchester Road (SC 642)	Widening the current two- lane section to four lanes with left and right turn lanes from Oakbrook just west of Old Trolley Road to US Route 17-A.	\$68.6 million ¹	- One-Cent Sales Tax - Guide Share - SIB	Guide Share and One-Cent Sales Tax funding programmed; SIB application submitted
ന	Bacons Bridge Road (SC 165)	Widening roadway from 2 lanes to 4 lanes with center turning lanes from end of 4-lane sections to SC 61. Includes intersection alignment at Mikel Drive and Edisto Drive.	\$40.0 million ¹	- One-Cent Sales Tax - Guide Share - SIB	Guide Share and One-Cent Sales Tax funding programmed; SIB application submitted

Notes:

- 1 Cost estimate provided by One-Cent Sales Tax Program 2 Cost estimate derived from general costs and assumes full right-of-way acquisition 3 Cost estimate derived from general costs and assumes no right-of-way acquisition



Plan ID#	Improvement	Description	Estimated Project Costs	Potential Funding Sources	Funding Status
4 a	Fifth Street North (US 78)	Widening current two-lane facility to a four-lane divided facility suitable for higher truck traffic volumes from Richardson Avenue to Berlin Myers Parkway	\$24.0 million ²	- One-Cent Sales Tax - Guide Share - SIB - One Cent Sales Tax Extension	Guide Share and One-Cent Sales Tax Funding Programmed; SIB application submitted
4b	Fifth Street North (US 78)	Widening current two-lane facility to a four-lane divided facility suitable for higher truck traffic volumes from Berlin Myers Parkway to Charleston County line	\$28.6 million ²	- One-Cent Sales Tax - Guide Share - SIB - One Cent Sales Tax Extension	Guide Share and One-Cent Sales Tax Funding Programmed; SIB application submitted
2	Old Orangeburg Road	Widening the current two- lane section to four lanes with continuous center turn lanes from Mallard Road to Dorchester Road (SC 642)	\$55.0 million	- One-Cent Sales Tax - Guide Share - SIB	One-Cent Sales Tax funding programmed; SIB application submitted
9	Central Avenue	Widen to include continuous center turn lane from Old Orangeburg Road to Parsons Road	\$7.1 million ²	- One-Cent Sales Tax - Guide Share	Widening to include addition ROW programmed in One-Cent Sales Tax; no funding sources currently identified for additional lane

Notes:

- 1 Cost estimate provided by One-Cent Sales Tax Program 2 Cost estimate derived from general costs and assumes full right-of-way acquisition 3 Cost estimate derived from general costs and assumes no right-of-way acquisition



Plan ID#	Improvement	Description	Estimated Project Costs	Potential Funding Sources	Funding Status
2	Miles Jamison Road	Widen to include continuous center turn lane from east of Old Trolley Road to Ladson Road	\$11.2 million ²	- One-Cent Sales Tax Extension - Guide Share	No funding sources currently dedicated. However, project listed as a Vision Plan project in 2030 CHATS LRTP
∞	Maple Street Extension	New four lane divided roadway Maple Street to Berlin Myers Parkway	\$40.3 million ²	- One-Cent Sales Tax Extension - Guide Share	No funding sources currently programmed, however \$12.7 million of Guide Share included in 2030 CHATS LRTP for project
6	Main Street (US 17A) and Carolina Avenue	Minor realignment of US 17A approach, with exclusive right turn lane onto Carolina Avenue; prohibit through traffic on Pine Grove Street; close access to intersection via Tupper Lane; signal reconfiguration	\$402,000 ²	- C-Funds - SCDOT Safety Program - One-Cent Sales Tax Extension - Guide Share	No funding sources currently dedicated

Notes:

^{1 –} Cost estimate provided by One-Cent Sales Tax Program 2 – Cost estimate derived from general costs and assumes full right-of-way acquisition 3 – Cost estimate derived from general costs and assumes no right-of-way acquisition



Plan ID#	Improvement	Description	Estimated Project Costs	Potential Funding Sources	Funding Status
10	Berlin Myers Parkway and Gahagan Road	Intersection improvements to include dedicated left turn and right turn lanes on northbound Gahagan Road and dedicated right turn lane on Berlin Myers onto Gahagan Road	\$1.89 million ¹	- One-Cent Sales Tax	One-Cent Sales Tax funding programmed
-	Main Street North (US 17A) and Azalea Square Boulevard	Reconfigure intersection for double left turn lanes on eastbound Main Street (US 17A) into Azalea Square Boulevard	\$444,000 ²	- C-Funds - One-Cent Sales Tax Extension - Guide Share	No funding sources currently dedicated
12	Main Street (US 17A) and Ninth Street North	Add exclusive left turn lanes on Ninth Street North approaches; signal upgrades to include protected left turns from Ninth Street North	\$415,000 ²	- C-Funds - One-Cent Sales Tax Extension - Guide Share	No funding sources currently dedicated; private contribution expected

Notes:

^{1 –} Cost estimate provided by One-Cent Sales Tax Program 2 – Cost estimate derived from general costs and assumes full right-of-way acquisition 3 – Cost estimate derived from general costs and assumes no right-of-way acquisition



Plan ID# Improvement		Estimated Project Costs	Potential Funding Sources	Funding Status
Boone Hill Road (US 17A) and Luden Road	Lengthen left turn lane onto Luden Road from westbound Boone Hill Road (US 17A); add right turn lane onto Luden Road from eastbound Boone Hill Road; add left turn lane from Luden Road to westbound Boone Hill Road: signal upgrade	\$671,000 2	- C-Funds - One-Cent Sales Tax Extension - Guide Share	No funding sources currently dedicated
Old Orangeburg Road and Butternut Road	Add signal; add exclusive right turn lane onto Butternut Road from northbound Old Orangeburg Road; add exclusive right turn lane from Butternut Road onto northbound Old Orangeburg Road (As part of proposed widening project)	\$543,000 ²	- One-Cent Sales Tax - C-Funds - One-Cent Sales Tax Extension - Guide Share	No funding sources currently dedicated

Notes:

- 1 Cost estimate provided by One-Cent Sales Tax Program 2 Cost estimate derived from general costs and assumes full right-of-way acquisition 3 Cost estimate derived from general costs and assumes no right-of-way acquisition



Plan ID#	Improvement	Description	Estimated Project Costs	Potential Funding Sources	Funding Status
5	Old Orangeburg Road and Hummingbird Lane	Add right turn lanes onto Hummingbird Lane and Dubose School Road from southbound Old Orangeburg Road; Add signal active only during school loading periods (As part of proposed widening	\$480,000 ²	- One-Cent Sales Tax - C-Funds - One-Cent Sales Tax Extension	No funding sources currently dedicated
16	Central Avenue and Parsons Road	Add left turn lane onto Parsons Road from eastbound Central Avenue; add southbound right turn lane onto Central Avenue	\$318,000 ²	- C-Funds - One-Cent Sales Tax Extension - Guide Share	No funding sources currently dedicated
17	Old Orangeburg Road and Devon Road	Add right turn lane onto Devon Road from southbound Old Orangeburg Road; add left turn lane onto Devon Road from northbound Old Orangeburg Road (As part of proposed widening	\$128,000 ²	- C-Funds - One-Cent Sales Tax Extension	No funding sources currently dedicated
NO+00.		71			

Notes:

- 1 Cost estimate provided by One-Cent Sales Tax Program
 2 Cost estimate derived from general costs and assumes full right-of-way acquisition
 3 Cost estimate derived from general costs and assumes no right-of-way acquisition



Plan ID#	Improvement	Description	Estimated Project Costs	Potential Funding Sources	Funding Status
9	Central Avenue and Carolina Avenue	Reconfigure interchange and signalization for one- way Carolina Avenue	\$162,000 ³	- C-Funds - One-Cent Sales Tax Extension	No funding sources currently dedicated
19	Boone Hill Road east of Old Orangeburg Road	Right turn lanes into Summerville High School facility	\$191,000 ²	- C-Funds - One-Cent Sales Tax Extension	No funding sources currently dedicated
20	Laurel Street and Central Avenue	Signal coordination with signalization at Carolina Avenue for northbound traffic along Laurel Street; add right turn lane onto Central Avenue from northbound Laurel Avenue; add left turn lane from Central Avenue onto Laurel Street	\$161,000 ³	- C-Funds - One-Cent Sales Tax Extension	No funding sources currently dedicated
21	Laurel Street and Richardson Avenue	Add northbound left turn lane from Laurel Street onto Richardson Avenue; add signal	\$162,000³	- C-Funds - One-Cent Sales Tax Extension	No funding sources currently dedicated

Notes:

^{1 –} Cost estimate provided by One-Cent Sales Tax Program 2 – Cost estimate derived from general costs and assumes full right-of-way acquisition 3 – Cost estimate derived from general costs and assumes no right-of-way acquisition



13.2 Bicycle and Pedestrian Improvements

In order to derive cost estimates for bicycle and pedestrian improvements, a generalized set of improvement costs were developed based on recent bids for construction received by the Town of Summerville and other related costs from previous projects. These generalized costs are provided below:

Table 13.3 – Bicycle and Pedestrian Improvements Unit Costs

Improvement Type	Unit Cost
Bicycle Improvements	
Multi-Use Trails (10 ft.) - Asphalt	\$105,600 per mile (or app. \$20 per linear foot)
Signage for Bicyclists	\$400 per mile
Restriping for Bike Lanes (no additional ROW)	\$25,000 per lane mile
Paved Shoulders (4 ft.)	\$50,000 per lane mile
Bike Lanes (4 ft.)	\$80,000 per lane mile
Pedestrian Improvements	
Sidewalks (5 ft.) - Concrete	\$116,200 per mile (or app. \$22 per linear foot)
Pedestrian Signalization and Markings	\$40,000 per intersection
Pedestrian Crossings	\$10,000 per crossing
Right-of-Way	
Residential	\$500,000 per acre
Commercial	\$750,000 per acre

A list of recommended bicycle and pedestrian improvements along with their projected costs and potential funding sources are provided in **Table 13.4** and **Table 13.5**, respectively. Please note that these costs are preliminary and more detailed estimates will be needed once preliminary engineering and an assessment of available right-of-way has taken place.



Table 13.4 – Estimated Project Costs and Potential Funding Sources for Bicycle Improvements

Plan ID#	Improvement	Improvement Limits	Description	Estimated Project Costs	Potential Funding Sources
B1	Old Orangeburg Road	Mallard Road to Dorchester Road	Add bike lane as part of planned widening project	\$4.26 million ¹	- One-Cent Sales Tax - Enhancement Funds - Local Match
B2	Bacons Bridge Road	Old Trolley Road to Dorchester Road	Add bike lane as part of planned widening project	\$2.041 million ¹	- One-Cent Sales Tax - Guide Share - Enhancement Funds - Local Match
B3	Boone Hill Road / Main Street	Richardson Avenue to Old Orangeburg Road	Restriping and/or additional signage	\$1,480 - Signage \$185,000 - Restriping	- Enhancement Funds - Local Match
B4	Carolina Avenue / Laurel Street One-Way Pair	Richardson Avenue to Main Street	Restriping and/or reconstruction and additional signage	N/A ²	- Enhancement Funds - Local Match
B5	Richardson Avenue	US 78 to Owens Road	Restriping and/or additional signage	\$1,000 - Signage \$125,000 - Restriping	- Enhancement Funds - Local Match
B6	Central Avenue	Old Orangeburg Road to Cedar Street	Restriping and/or additional signage	\$1,600 - Signage \$200,000 - Restriping	- Enhancement Funds - Local Match
B7	Dorchester Road	Old Orangeburg Road to Dorchester State Park	Add bike lane as part of planned widening project	\$1.69 million ¹	- One-Cent Sales Tax - Guide Share - Enhancement Funds - Local Match
B8	US 78	Jedburg Road to Richardson Avenue	Add bike lane as part of planned widening project	\$1.87 million ¹	- One-Cent Sales Tax - Guide Share - Enhancement Funds - Local Match

Notes:

^{1 –} Assumes cost absorbed as part of design for programmed roadway widening project, estimates also include associated ROW costs

^{2 -} Cost estimate dependent on more detailed design of one-way pair concept



Table 13.4 – Estimated Project Costs and Potential Funding Sources for Bicycle Improvements (continued)

Plan ID#	Improvement	Improvement Limits	Description	Estimated Project Costs	Potential Funding Sources
B9	Luden Road	King Charles Circle to Boone Hill Road	Restriping and/or additional signage	\$400 – Signage \$35,000 - Restriping	- Enhancement Funds - Local Match
B10	Green Wave Boulevard	Boone Hill Road and Old Orangeburg Road to Sawmill Branch	Restriping and/or additional signage, add trail connection	\$400 – Signage \$25,000 – Restriping \$71,560 – Trail connection including ROW	- Enhancement Funds - Local Match
B11	Parsons Road	Richardson Avenue to Central Avenue	Restriping and/or additional signage	\$600 – Signage \$75,000 – Restriping	- Enhancement Funds - Local Match
B12	Miles Jamison Road	Old Trolley Road to Ladson Road	Restriping and/or additional signage or bike lanes with recommended widening	\$1,400 – Signage \$165,000 – Restriping or \$2.13 million – Bike lanes and ROW	- One-Cent Sales Tax Extension - Guide Share - Enhancement Funds - Local Match
B13	Lincoln Avenue/ Lincolnville Road	Owens Road to Ladson Road	Restriping and/or additional signage	\$1,500 – Signage \$180,000 – Restriping	- Enhancement Funds - Local Match
B14	Martin Lane/Rose Lane/Ashley Drive	New connection to Sawmill Branch Trail from Old Trolley Road bike lanes	Restriping and/or additional signage, add trail connection	\$400 – Signage \$5,000 – Restriping \$71,560 – Trail connection including ROW	- Enhancement Funds - Local Match
B15	New connection near Paradise Point	New connection to Sawmill Branch Trail from Bacons Bridge Road bike lanes	Restriping and/or additional signage, add trail connection	\$400 – Signage \$2,500 – Restriping \$71,560 – Trail connection including ROW	- Enhancement Funds - Local Match



Table 13.5 – Estimated Project Costs and Potential Funding Sources for Pedestrian Improvements

Plan ID#	Improvement	Improvement Limits	Description	Estimated Project Costs	Potential Funding Sources
P1	Boone Hill Road / Main Street (US 17A)	Richardson Avenue to Old Orangeburg Road	Fill in sidewalk gaps on both sides of roadway with pedestrian crossings at Richland Street and Summerville High School, and enhanced pedestrian signalization at Luden Road	\$795,000 \$2.74 million w/ ROW*	- Enhancement Funds - Local Match - C-Funds
P2**	Bacons Bridge Road	Old Trolley Road to Dorchester Road	New sidewalks on both sides of roadway as part of planned roadway improvement	\$535,000 \$1.93 million w/ ROW*	- One-Cent Sales Tax - Guide Share - Enhancement Funds - Local Match - C-Funds
P3	Carolina Avenue / Laurel Street One- Way Pair	Richardson Avenue to Main Street	New sidewalks along one side of roadways (depending on roadway design concept) with pedestrian signal enhancements at Central Avenue	N/A – Cost dependent on more detailed engineering concept.	- Enhancement Funds - Local Match - C-Funds
P4	Central Avenue	Old Orangeburg Road to Cedar Street	New sidewalks on both sides of roadway with pedestrian signalization at Old Orangeburg Road	\$813,000 \$2.94 million w/ ROW*	- Enhancement Funds - Local Match - C-Funds

Notes:

^{* -} Assumes 100% of right-of-way required for project would need to be acquired.

** - Assumes cost absorbed as part of design for programmed roadway widening project, estimates also include associated ROW costs



Plan ID#	Improvement	Improvement Limits	Description	Estimated Project Costs	Potential Funding Sources
P5**	Old Orangeburg	Mallard Road to Dorchester Road	Fill in sidewalk gaps on eastern side of roadway and add	\$1.22 million	- One-Cent Sales Tax - Guide Share
	Road		sidewalks on west side of	\$4.25 million w/	- Enhancement Funds
			roadway as part of planned	ROW*	- Local Match
			roadway improvement;		- C-Funds
			enhanced pedestrian		
			signalization at Butternut Road and Central Aventie: pedestrian		
			crossings at Knightsville		
			Elementary and Hummingbird		
***	20,000		Lane	000	Carlo Carlo
2	חסוכו ופאופו	Old Olaligebulg	INEW SIGEWAINS OIL DOILL SIGES OF	4463,000	- Olie-Celli Sales Lax
	Road	Road to	roadway as part of planned		- Guide Share
		Dorchester State	roadway improvement	\$1.55 million w/	 Enhancement Funds
		Park		ROW*	- Local Match
					- C-Funds
Ь7	Fifth Street	Maple Street to	New sidewalks on both sides of	\$232,000	- One-Cent Sales Tax
	North	Berlin Myers	roadway as part of widening		- Guide Share
		Parkway	project	\$1.55 million w/	 Enhancement Funds
				ROW*	- Local Match
					- C-Funds
P8	Butternut Road	Old Orangeburg	New sidewalk on north side of	\$175,000	 Enhancement Funds Local Match
		Avenue		\$629,000 w/	- C-Funds
]				ROW*	

Notes:

^{* -} Assumes 100% of right-of-way required for project would need to be acquired.
** - Assumes cost absorbed as part of design for programmed roadway widening project, estimates also include associated ROW costs



Plan ID#	Improvement	Improvement Limits	Description	Estimated Project Costs	Potential Funding Sources
P9	Tupperway Drive	Old Orangeburg Road to Boone Hill Road	New sidewalk on north side of roadway	\$209,000 \$755,000 w/ ROW*	- Enhancement Funds - Local Match - C-Funds
P10	Miles Jamison Road	Old Trolley Road to Ladson Road	New sidewalks on both sides of roadway	\$767,000 \$2.77 million w/ ROW*	One-Cent Sales Tax ExtensionGuide ShareEnhancement FundsLocal MatchC-Funds
P11	Gahagan Road	Sawmill Branch to Miles Jamison Road	New sidewalk on west side of roadway	\$140,000 \$503,000 w/ ROW*	- Enhancement Funds - Local Match - C-Funds

Notes:

 ^{* -} Assumes 100% of right-of-way required for project would need to be acquired.
 ** - Assumes cost absorbed as part of design for programmed roadway widening project, estimates also include associated ROW costs



14.0 Recommended Program of Improvements

14.1 Roadway Improvements

The estimated costs of the recommended roadway improvements from this Plan total approximately \$396.7 million in combination. The program of recommended roadway improvements is provided in the following discussion.

Short-Term Improvements (2007-2012)

Short-term improvements primarily include those projects with committed funding sources for completion and which are therefore currently programmed under the One-Cent Sales Tax program and/or subject to the pending SIB application. The only short-term project without committed funding is the Carolina Avenue at Main Street intersection improvement project, which would need to be funded through C-Funds and possibly the SCDOT Safety Program. A list of short-term projects is included in **Table 14.1**.

Table 14.1 – Short-Term Roadway Improvements – 2007-2012

Available Funding

One-Cent Sales Tax - \$125,000,000 (dedicated to specific projects)

SIB - \$213,200,000

Guide Share - \$25,200,000

C-Funds - \$906,000 Total - \$364,306,000

Plan ID#	Description	Project Costs	Potential Funding Sources
1	Berlin Myers Extension	\$56.9 million	- One-Cent Sales Tax - Guide Share - SIB
2	Bacons Bridge Road Widening	\$40.0 million	- One-Cent Sales Tax - Guide Share - SIB
3	Dorchester Road Widening	\$68.6 million	- One-Cent Sales Tax - Guide Share - SIB
4a	Fifth Street Widening from Richardson Avenue to Berlin Myers Parkway	\$24.0 million	- One-Cent Sales Tax - Guide Share - SIB
5	Old Orangeburg Road Widening	\$55.0 million	- One-Cent Sales Tax - Guide Share - SIB
9	Carolina Avenue/Main Street	\$402,000	- C-Funds - SCDOT Safety Funds
10	Berlin Myers/Gahagan Road	\$1.8 million	- One-Cent Sales Tax
	Total Cost	\$246.7 million	



Mid-Term Improvements (2013-2020)

The improvements identified as mid-term are of the next highest priority and would be needed through 2020. These improvements include widening projects where funds have not been allocated but could be available through a sales tax extension and/or revisions to the 2030 CHATS LRTP. It should be noted that some funding could be made available from the current one-cent sales tax program should the programmed project along Central Avenue be delayed until funding to develop the recommended project below becomes available.

Table 14.2 – Mid-Term Roadway Improvements – 2013-2020

Potential Funding Sources

One-Cent Sales Tax Extension - \$70,000,000 (assumes remainder to be distributed in other portions of the county)

C-Funds - \$1,208,000 Total - \$71,208,000

Plan ID#	Description	Project Costs	Potential Funding Sources
6	Central Avenue Widening	\$7.1 million	- One-Cent Sales Tax Extension - Guide Share
7	Miles Jamison Road Widening w/ Bike Lanes	\$13.2 million	- One-Cent Sales Tax Extension - Guide Share
8	Maple Street Extension	\$40.2 million	- One-Cent Sales Tax Extension - Guide Share
11	Main Street/Azalea Square	\$444,000	- One-Cent Sales Tax Extension - Guide Share
12	Main Street/9 th Street North	\$416,000	- One Cent Sales Tax Extension - C-Funds
13	Boone Hill Road/Luden Road	\$671,000	- One Cent Sales Tax Extension - C-Funds
14	Old Orangeburg Road / Butternut Road	\$543,000	- One Cent Sales Tax Extension - C-Funds
15	Old Orangeburg Road / Hummingbird Lane	\$480,000	- One Cent Sales Tax Extension - C-Funds
16	Central Avenue/Parsons Road	\$318,000	- One Cent Sales Tax Extension - C-Funds
17	Old Orangeburg Road / Devon Road	\$128,000	- One Cent Sales Tax Extension - C-Funds
19	Boone Hill Road east of Old Orangeburg Road	\$192,000	- One Cent Sales Tax Extension - C-Funds
	Total Cost	\$63.7 million	



Long-Term Improvements (2021-2030)

The improvements identified as long-term are those without identified funding that will be needed beyond 2020. Other than the widening of US 78, all of these improvements are tied to the proposed one-way pair concept along Carolina Avenue. Funding sources for these projects could become available if the one-cent sales tax was extended and additional guide share becomes available through LRTP amendments. A list of long-term improvements is provided in **Table 14.3**.

Table 14.3 – Long-Term Roadway Improvements – 2021-2030

Plan ID#	Description	Project Costs	Potential Funding Sources
4b	Fifth Street Widening from Berlin Myers Parkway to Charleston County	\$43.5 million	- One-Cent Sales Tax Extension - Guide Share
18	Central Avenue / Carolina Avenue	\$162,000	- One Cent Sales Tax Extension - C-Funds
20	Laurel Street / Central Avenue	\$161,000	- One Cent Sales Tax Extension - C-Funds
21	Laurel Street / Richardson Avenue	\$162,000	- One Cent Sales Tax Extension - C-Funds
	Total Cost	\$44.1 million	

14.2 Bicycle and Pedestrian Improvements

There are two primary funding sources available for bicycle and pedestrian improvements within the Town:

- One-Cent Sales Tax funding as part of programmed roadway improvements; and
- Enhancement Funds coupled with the required 20 percent match from the Town.

Short-Term Improvements (2007-2012)

A list of recommended bicycle and pedestrian improvements through 2030 and their associated costs were provided previously in **Table 13.4** and **Table 13.5**, respectively. In total, the cost of recommended bicycle improvements is estimated at slightly over \$11 million. Of these recommended bicycle projects, over \$9.8 million are associated with the construction of bicycle lanes as part of programmed roadway improvements, which include:

- Plan ID#2: Bacons Bridge Road Widening
- Plan ID#3: Dorchester Road Widening
- Plan ID#4: US 78 Widening
- Plan ID#5: Old Orangeburg Road Widening

Town of Summerville, South Carolina



Likewise, of the approximately \$7.1 million of estimated costs (without right-of-way acquisition) for pedestrian improvements, approximately \$2.4 million are associated with these widening projects.

For planning purposes, it was assumed that these projects will be constructed with bike lanes and sidewalks under SCDOT's Complete Streets design (such as recently completed capacity improvements to Ladson Road and Old Trolley Road). As such, the costs associated with bicycle and pedestrian improvements would be incorporated into the overall costs of the widening project. It is for this reason that these improvements are recommended for short-term implementation and are considered programmed improvements.

Mid-Term and Long-Term Improvements (2013-2030)

While C-Funds are eligible for use on bicycle and pedestrian improvements, they are not foreseen as a viable funding source given the amount of intersection improvements and routine maintenance needed through 2030. Therefore, Enhancement Grants will continue to be the primary funding source for these types of improvements. Assuming the average Enhancement Funds amount allotted to the Town over the past four years remains constant into the future, the amount available from these funds (and the Town's required 20 percent match) is shown in **Table 14.4**.

Average – 2003-2006 \$95,000 2007-2030 (Average x 23 years) \$2,185,000 2007-2012 (Average x 7 years) \$570,000 2013-2020 (Average x 6 years) \$665,000 2021-2030 (Average x 10 years) \$950,000

Table 14.4 – Estimated Enhancement Funds - 2007

Not including those associated with the one-way pair concept, the remaining bicycle projects recommended primarily consist of restriping and/or adding signage within existing roadway right-of-way throughout the Town. Three of these projects also include trail connections with additional right-of-way. If rights-of-way were available for all of the proposed projects, the estimated cost of these improvements totals \$1,220,800. Pedestrian improvements recommended throughout the Town not associated with the one-way pair concept or programmed widening projects are estimated to cost \$4.7 million.

Overall, the Town should focus its bicycle improvement efforts on gradually building connectivity of its bicycle network. Therefore, projects that connect existing facilities, such as the trail connection from the Old Trolley Road bike lanes, should take priority. Likewise, the Town should focus pedestrian improvements to enhance access to the Town's schools and then work to increase the connectivity between these facilities along the Town's more traveled transportation corridors. It should also be noted that the recommended pedestrian network can also be constructed in smaller increments as funding becomes available or other opportunities, such as development-related sidewalk provision, occur.

Given the amount of estimated Enhancement Funds shown in **Table 14.4**, it would appear that the Town will have sufficient funding available to implement several of the recommendations of

Town of Summerville, South Carolina



this Plan. However, additional funding sources will be needed to construct all of the recommended bicycle and pedestrian projects. It should also be noted that right-of-way limitations may substantially increase costs for some recommended projects and/or require more costly solutions. In addition, many of the recommended bicycle and pedestrian improvements are along roadways that are also recommended for widening projects. Therefore, prioritization of recommended bicycle and pedestrian projects should not occur until a more detailed right-of-way analysis is conducted and preliminary engineering for these widening projects has taken place.

14.3 Traffic Calming

As noted in Section 10, there are two roadways that have been recommended for traffic calming improvements – Carolina Avenue and Pine Grove Street.

Other than the intersection related improvements, cost estimates for the recommended Carolina Avenue one-way pair concept cannot be developed until a more detailed conceptual design for the project is developed. Because the improvement is focused on neighborhood preservation rather than improving mobility, the likely funding source(s) would be Enhancement Funds and/or C-Funds. However, the use of these funds would require prioritization above other intersection and/or bicycle and pedestrian improvements. Once a conceptual design has been completed, the associated costs can be estimated and programmed into these funding sources should the Town so desire.

The recommendation for Pine Grove Street calls for additional signage and enforcement of the prohibition on through traffic along the residential street. Therefore, the capital costs associated with this improvement are minimal.



15.0 Major Findings and Next Steps

15.1 Major Findings

The following is a list of the major findings from this transportation study:

- The greatest numbers of trips on the Town's roadway network are experienced in the northeast and southwest direction between points south and west of the Town to I-26. Pursuant to forecasts from the travel demand models, the demand for these trips is expected to increase through the year 2030. Therefore, the widening of Bacons Bridge Road and Berlin Myers Parkway will be critical in serving this demand.
- All roadway improvements currently programmed in the One-Cent Sales Tax program
 are needed. In addition, several other roadway improvements are needed within the
 Town to maintain acceptable levels of service through 2030. Additional sources are
 required to fund needed roadway improvements through 2030; for that reason,
 consideration should be given to extending the One-Cent Sales Tax.
- The Town is currently not served by transit. Given the travel demand characteristics of the Town, future transit service should focus on commuter related services and tying these services to local shopping and employment centers. The Town should also implement a circulator service from downtown to Heritage Shopping Center during special events in downtown.
- The Town currently has a limited amount of bicycle facilities. Many of the recommended projects are assumed to be programmed as part of roadway widening projects. Notwithstanding, the Town should focus its bicycle improvement efforts on gradually building connectivity of its bicycle network. Therefore, projects that connect existing facilities, such as the trail connection from the Old Trolley Road bike lanes, should take priority. A right-of-way analysis needs to take place in order to prioritize projects and develop more detailed costs for many of the recommended bicycle improvements.
- Sidewalks in the Town are primarily concentrated within the downtown area and other isolated commercial areas and neighborhood streets. Since many of the pedestrian improvements are along roadways recommended for capacity and/or bicycle improvements, the priority of recommendations will be dependent on a more detailed right-of-way analysis. In the interim, the Town should focus pedestrian improvements to enhance access to the Town's schools and then work to increase the connectivity between these facilities along the more traveled transportation corridors.
- With construction of the parking deck, the Town should have adequate parking supply to meet the demands of its downtown. However, additional signage and parking management could also improve parking supply within the area.
- The amount of truck traffic within the Town is projected to increase through 2030. Improvements to Berlin Myers Parkway, Fifth Street North (US 78), Old Orangeburg Road, and Dorchester Road have been recommended to establish these facilities as

Town of Summerville, South Carolina



primary truck corridors. Given the land uses along Central Avenue and the connectivity provided between downtown and Knightsville, improvements to this roadway are needed to establish it as a secondary truck corridor. In order to reduce operational conflicts, truck restrictions are recommended along segments of Richardson Avenue, Main Street (US 17A), Miles Jamison Road, West Carolina Avenue and Laurel Street.

15.2 Next Steps

The following steps are recommended for undertaking by the Town in order to increase the viability of the recommendations set forth in this Plan:

- Coordinate with Dorchester County One-Cent Sales Tax program to examine the potential cost increases and programming issues associated with the recommendations for Fifth Street North (US 78) and Central Avenue.
- Coordinate with Dorchester County and SCDOT to ensure roadways programmed within the One-Cent Sales Tax program are designed with bicycle lanes and sidewalks.
- Begin investigating the feasibility of potential one-cent sales tax extensions through 2030.
- Coordinate with CHATS to incorporate the recommendations of this Plan into the next 2030 LRTP update.
- Continue to coordinate with CHATS and CARTA to examine the potential for the establishment of commuter transit services within the Town.
- Conduct a more detailed right-of-way analysis to determine the feasibility of recommended bicycle and pedestrian improvements.
- Explore means to increase the available match for Enhancement Funds applied for by the Town to increase the overall amount of bicycle and pedestrian funding.
- While outside of the study area of this Plan, the Town should coordinate with CHATS to investigate the potential widening of US 17A west of the Town. Capacity improvements to Berlin Myers Parkway, Old Orangeburg Road, and Dorchester Road will increase travel demand along this roadway.
- Investigate the potential and/or desire to establish transportation impact fees for additional funding for needed transportation improvements.